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HANDBOOK OF OPERATION AND MAINTENANCE INSTRUCTIONS FOR MODEL 5208A BIT SYNCHRONIZER UNIT

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RADIATION
Systems Division
MELBOURNE, FLORIDA 32901

HANDBOOK OF OPERATION AND MAINTENANCE INSTRUCTIONS

FOR

MODEL 5208A BIT SYNCHRONIZER UNIT

TABLE OF CONTENTS

SECTION 1.0

GENERAL DESCRIPTION

1.0 GENERAL DESCRIPTION

1.1 Introduction

This manual provides electrical/mechanical characteristics, operation, theory of operation, parts list and electrical diagrams for the Model 5208A Bit Synchronizer Unit. The unit is capable of performing the functions of bit synchronization and signal conditioning on demodulated wave trains containing amplitude, frequency and phase distortions as well as additive noise. Operating frequencies in the 1 to 27 MHz bit rate range are accommodated through the use of discrete frequency plug-in subunits. The unit provides 0- and 180-degree clocks and either a single signal hard decision, or a three bit quantized soft decision data output.

1.2 Physical Description

The unit, shown by Figure 1-1, consists of a single, standard 7-inch drawer and the associated plug-in subunits (one required for each operational bit rate). The unit contains its own power supplies and therefore requires only ac line power and the input signal for operation. All operator controls used for normal operation are located on the front of the equipment. The input/output connections are located on the rear panel of the drawer. All signal connections are the BNC type. The drawer is compatible with standard 19-inch cabinets. The overall dimensions are as follows:

Panel height - 7.0 inches

Panel width - 19 inches

Drawer depth - 21.5 inches overall

As shown by Figure 1-2, the Bit Synchronizer unit has two self-contained power supplies, four chassis-mounted printed circuit board assemblies, a VCO assembly, a coaxial switch, control panel and the plug-in unit. Each plug-in unit contains two additional printed circuit board assemblies.

The equipment will operate in an environment of 32° F to 100° F temperature and 10 to 95 percent relative humidity.

1.3 Electrical Characteristics

The electrical characteristics for the Bit Synchronizer are provided in Table 1. The input/output connections and controls are covered in Section II, Operation.

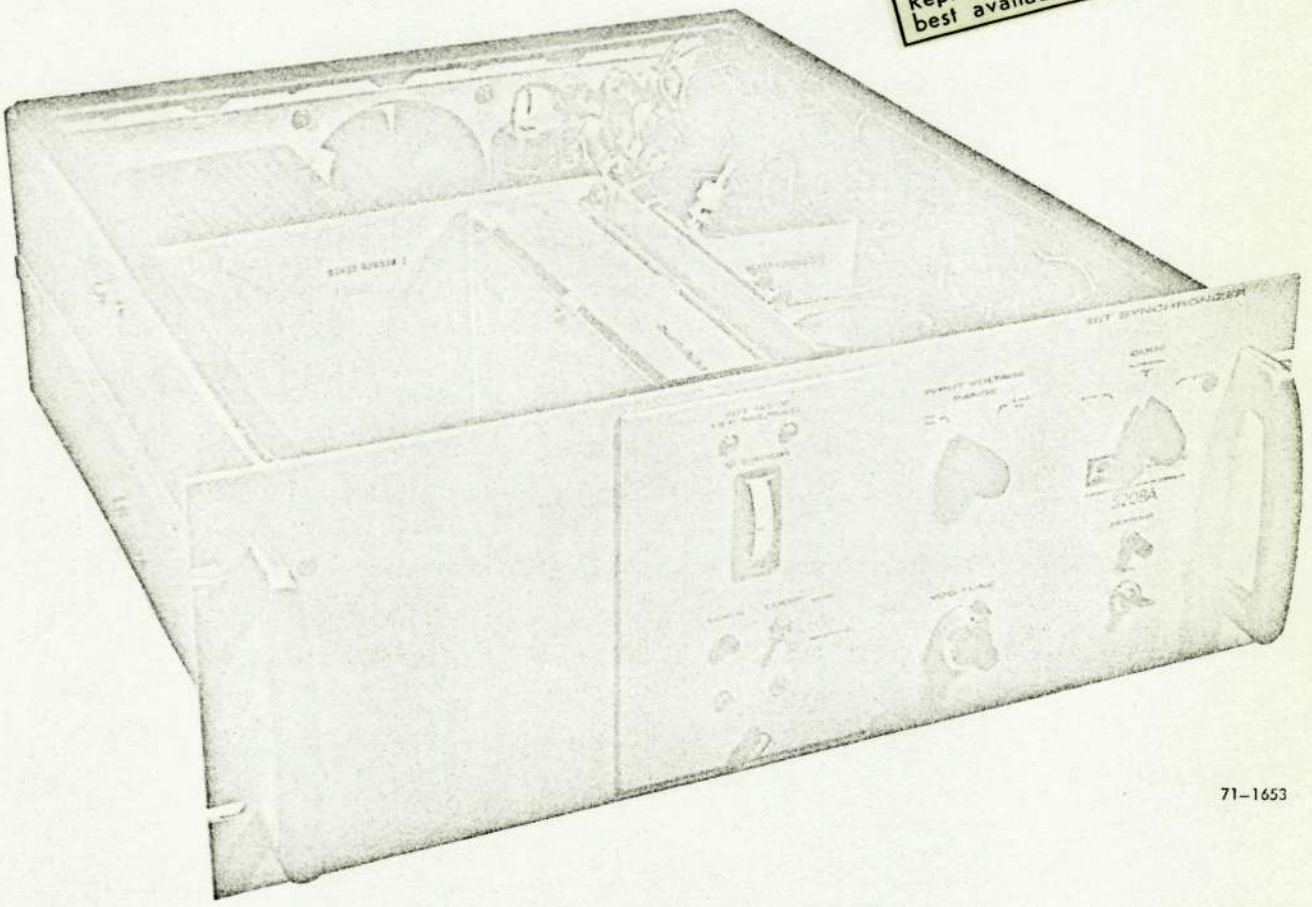


Figure 1-1. Model 5208A Bit Synchronizer

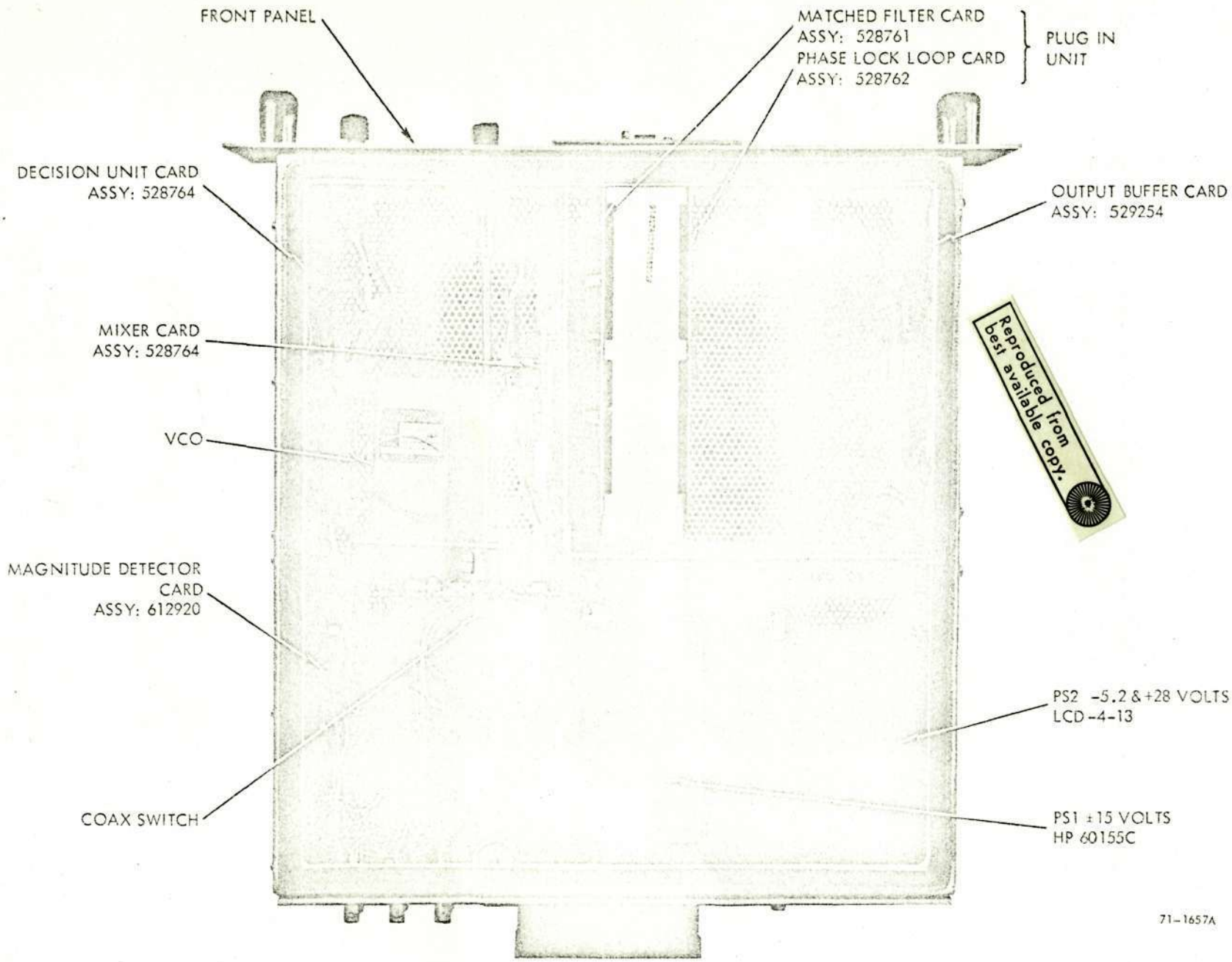


Figure 1-2. Bit Synchronizer Assembly Locations (Top View)

Table 1. Bit Synchronizer Electrical Characteristics

Item	Characteristic
1. Power	115 ±10 vac, 60 ±2 Hz.
2. Input Signal Characteristics	
a. Input Impedance	50 ohms ±20%.
b. Input Signal	NZR-L PCM at the bit rate of the selected plug-in subunit.
c. Signal Amplitude	0.25 V rms to 1.5 V rms.
d. DC Offset	Up to ± rms signal value.
e. Bit Rate Variation	Static Δ f/f up to ±1%. Dynamic Δ f/f = ±0.5% peak-to-peak sinusoidal at rates of fm/f to 1%.
f. Transition Density	10% minimum.
g. One/Zero Ratio	1/10 to 10/1.
h. Bits Without Transition	64 maximum.
i. Bit Rate	Bit rate is controlled by front panel plug-in units. Bit rates from 1.0 MB to 27 MB are accommodated. Tuning range of each plug-in is ±1% of the nominal bit rate minimum.
3. Performance Characteristics	
a. Bit Error Rate	With random data (probability of "one" = probability of transition = 0.5), no jitter, and other variables of Item 2 above at any specified value: within 1 dB of theoretical for E_n/N_o of -2 dB or greater.
b. Bit Error Rate	With a combination of parameter values specified in Item 2 above within two dB of theoretical for E_n/N_o of -2 dB or greater.

Table 1. Bit Synchronizer Electrical Characteristics (Continued)

Item	Characteristic
c. Bit Slippage Rate	Less than 1×10^{6} for E_n/N_o of -2 dB or greater and any combination of parameter values specified in Item 2 above.
4. Output Characteristics	
a. Data	NRZ-L in TTL compatible levels. Output levels: logical zero = 0 ±0.25 volt; logical one = 4.0 ±1.5 volts; at the end of 20 feet of cable terminated in 100 ohms to +5.0 volts. This output is also the sign (or MSB) bit of the quantized output.
b. Quantized Data	Data is provided quantized to three bits sign and magnitude, with the 011 quanta centered on the noise free zero level and the 111 quanta centered on the noise free one. Levels are the same as specified for the NRZ-L data.
c. Clocks	Square-wave clocks (±10% asymmetry max) of the same levels as specified for the NRZ-L data are provided, as follows: Bit rate, with positive going edges aligned with the data bits (symbols), ±10% bit period. Bit rate, with negative going edges aligned with the data bit, ±10% bit period.

1.4 Functional Description

Figure 1-4 is the general block diagram for the Bit Synchronizer unit. The purpose of the unit is to condition and synchronize to a serial PCM signal with noise and output a reconditioned data stream and its associated clock. Those blocks in Figure 1-2 with an SC designation are functions primarily concerned with signal conditioning whereas those labeled BS are primarily functions for bit synchronization. The different functions are separated into two groups. The blocks with the dashed lines are frequency-dependent and are contained in the plug-in subunit. The solid-lined blocks are common circuitry for all frequencies.

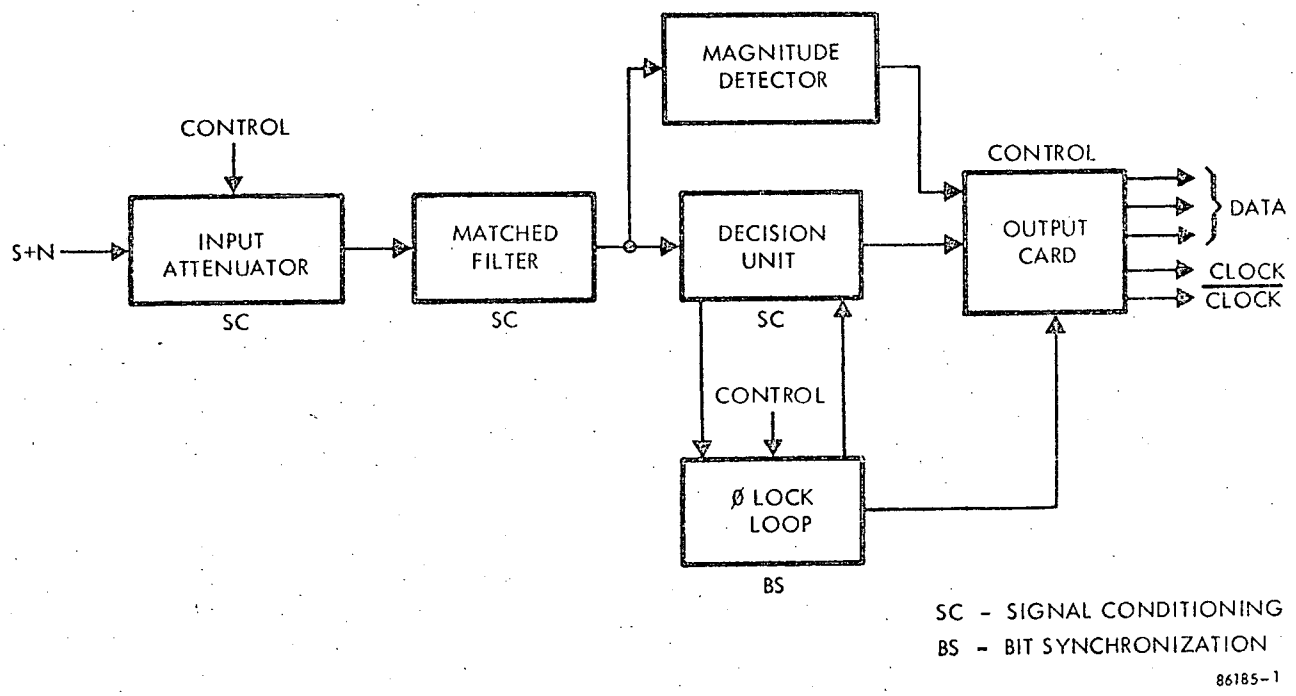


Figure 1-4. General Block Diagram Bit Sync Unit

The serial PCM signal-plus-noise input is connected to the input attenuator which provides operator selection of two input voltage ranges. The output of the attenuator is applied to the matched filter function which performs filtering and baseline correction signal conditioning. The output signal from the matched filter is then connected to the decision unit where it is compared with a fixed reference voltage. The decision unit supplies a signal to the phase lock loop which conditions the signal for use as a control voltage to adjust the frequency of the loop to match the incoming signal frequency (lock condition). The output clock from the phase lock loop is then used by the decision unit to sample the input signal to determine its logic state (ZERO or ONE).

The output of the matched filter is also used by the magnitude detector to generate a digital code (quantized data output) which corresponds to the amplitude of the input signal. This code, along with the serial data and clock lines are routed to the output card for level conversion and output buffering.

SECTION 2.0

OPERATION

2.0 OPERATION

2.1 Operating Controls, Indicators and Connectors

This section functionally describes the controls, indicators and connectors for the Bit Sync Unit (Table 2.1). The front panel view of the unit is provided in Figure 2.1, and the rear panel in Figure 2.2.

AC power is provided to the unit via a receptacle located at the rear of the drawer. An ac line fuse is located adjacent to the ac receptacle.

Table 2.1. Bit Sync Panel Controls, Connectors and Indicators

Control Connector or Indicator	Reference Designation	Function
POWER indicator	DS2	When lit, indicates the ac power is applied to the unit.
POWER switch	S1	Applies power to Bit Synchronizer.
MODE switch	S4	SIM position: Switches the clock source from internal to external (J6) for simulation purposes. NORMAL position: Unit accepts NRZ-L input and provides NRZ-L output. QUAD position: Not applicable.
INPUT VOLTAGE switch	S2	Selects voltage range of either .75 to .25 volts or 1.5 to .75 volts.
VCO TUNE potentiometer	R1	Tunes the phase lock loop such that the Ø ERROR meter reads approximately zero, the LOCK indicator is lit and Data Out is in phase with the Bit Rate Clock.

Table 2.1. Bit Sync Panel Controls, Connectors and Indicators (Continued)

Control Connector or Indicator	Reference Designation	Function
Ø ERROR meter	M1	This meter indicates the phase error voltage applied to the Loop filter.
LOCK	DS1	When lit, indicates the phase error voltage is within approximately 250 mV of zero volts.
LOOP	S1	This switch controls the phase lock loop bandwidth. The bandwidth is 1 percent in the WIDE position and 0.1 percent in the NARROW position.
POWER connector	J1	Input 115 ±10 vac at 60 Hz ±2 Hz.
Sign (MSB) Data Connector	J2	Sign (or MSB) of quantized binary data output. Also the NRZ-L data output TTL levels.
Spare	J3	
Data In Connector	J4	Input PCM (NRZ-L) signal.
Clock Out Connector	J5	Output bit rate with positive transition aligned with the data bits TTL levels.
External Clock In Connector	J6	Input for external bit rate for use in simulation (SIM) mode. TTL levels. Positive transition should be aligned with input data transitions.
$\overline{\text{Clock}}$ Out Connector	J8	Output bit rate with negative transition aligned with the data bits TTL levels.

Table 2.1. Bit Sync Panel Controls, Connectors and Indicators (Continued)

Control Connector or Indicator	Reference Designation	Function
LSB Data Out Connector	J9	Least significant binary data bit of the quantized data output. TTL levels.
CSB Data Out Connector	J10	Center weighted binary bit of the quantized data output. TTL levels.

2.2 Operating Procedures

Detailed operating procedures are as follows:

1. Connect the Bit Synchronizer to the power line, and to the signal input and outputs.

2. Insert the plug-in unit for the desired bit rate.

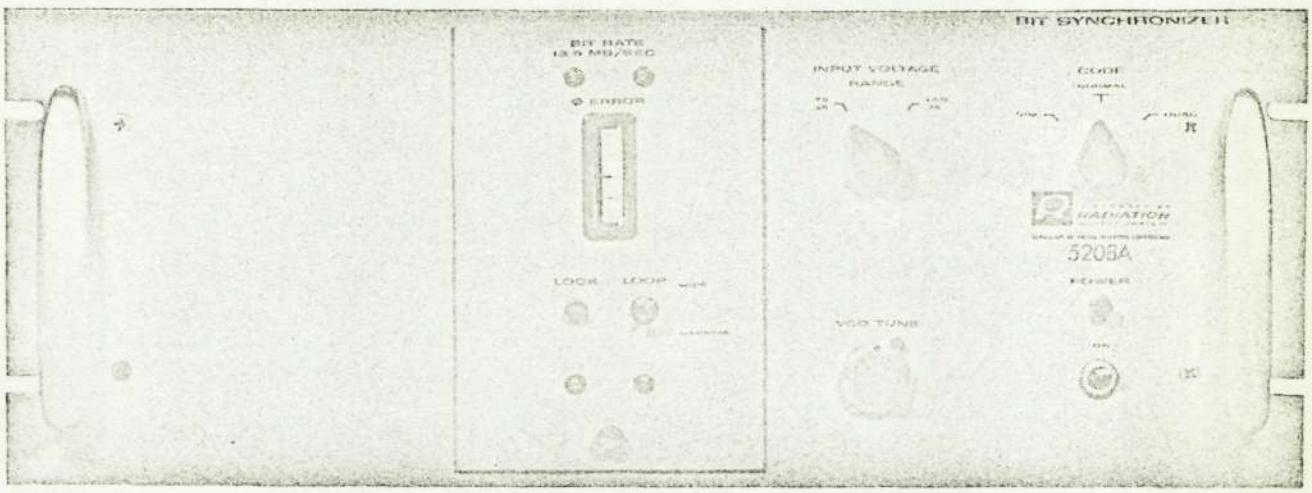
3. Turn the Power Switch ON.

4. Set the Input Voltage Switch to the position encompassing the actual input signal amplitude.

5. Select the desired Mode of Operation with the MODE Switch. In the Simulate position, an external clock must be applied to J6, phased so that the positive transition is aligned with the transitions of the input data bits. In this mode, the synchronizer requires no further adjustments for operation at any bit rate equal to or less than that of the inserted plug-in unit. In the BI-PHASE mode, no external clock is required, but the synchronizer must be locked to the input data.

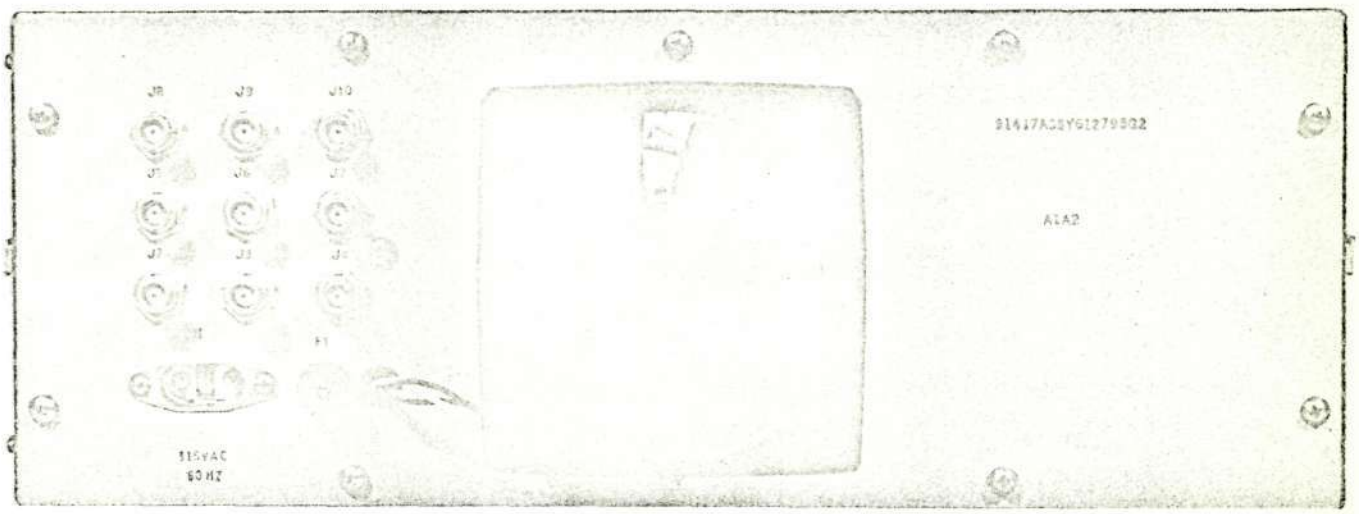
6. Select the desired Loop Bandwidth. Normally, the Narrow position is employed for operation at low signal-to-noise-ratios, and the Wide position is employed to provide wider acquisition range and better jitter tracking at higher signal-to-noise-ratios.

7. Adjust the VCO TUNE potentiometer until the synchronizer is locked to the input signal and the Phase Error Meter is zeroed. Correct lock can be verified by measuring the output Bit Rate Clock with a Counter, or by observing input and output signals on an oscilloscope. When the



71-1655

Figure 2.1. Bit Sync Control Panel



71-1661

Figure 2.2. Bit Sync Rear Panel

synchronizer is correctly locked to a clean input, it should be possible to swing the Phase Error meter over a small range by adjustment of the VCO TUNE control, and with experience, correct lock can be verified by observing this behaviour.

2.3 Calibration

The 5208A Bit Synchronizer has been calibrated during its final performance testing and should not require periodic adjustments. The following procedures are provided as reference data for recalibration following repair.

MATCHED FILTER CARD — Reference Assembly 528761

With the Input J1 grounded and one end of R8 lifted from the board, adjust R5 until the output of AR1 is within ±1 mV of ground. Then adjust R17 until the output of AR3 is within ±2 mV of ground. Replace R8 and adjust R13 such that the output of AR1 is within ±1 mV of ground.

DECISION UNIT CARD — Reference Assembly 528764

Adjust R31 for minimum bit error rate. Repeat for R18 and R42.

PHASE LOCK LOOP CARD — Reference Assembly 528762

Adjust front panel fine TUNE pot R2 for minimum bit error rate, then adjust R35 such that the front panel meter reads as close to "0" as possible.

MAGNITUDE DETECTOR CARD — Reference Assembly 612920

Adjust R7A such that the voltage at the base of Q3 Section G is within ±10 mV of the voltage at the base of Q3 Section A.

SECTION 3.0

THEORY OF OPERATION

3.0 THEORY OF OPERATION

3.1 Scope

This section presents functional and detailed theory for the Bit Synchronizer Unit. The unit is discussed from both the block diagram and schematic diagram levels.

3.2 Functional Description

Figure 3.2 is the functional block diagram of the Bit Sync Unit. The unit is divided into two sections. The fixed section (upper section of the diagram) is the mainframe assembly and contains those functional blocks which are not frequency dependent. This section also contains the power supplies, blower, input/output connectors, and all front panel controls except those functions which are dependent on bit rate. The boxes shown in the lower section of the diagram represent the bit rate dependent section.

Input data (signal and noise) is connected to J4 and is attenuated by R1. The two-position attenuator pad is controlled by S2 which is selected for the input data voltage described in Section 2.0. The data is then presented to the Matched Filter where it is conditioned for comparison with a reference voltage on the Decision Units Card. The Decision Unit outputs pulses to the Phase Lock Loop at data zero crossings. These pulses are conditioned and compared to the Mixer's output. The resulting phase error is filtered and amplified to provide the control voltage for the 70 MHz VCO. The Phase Lock Loop Card also includes a fixed oscillator of 70 MHz minus Bit Rate. This oscillator is mixed with the VCO output on the Mixer Card to provide the reference input (J1) for the phase detector on the Phase Lock Loop Card. Thus, a phase locked bit rate signal is produced at J2 of the Phase Lock Loop Card. The loop is controlled by the VCO tuning potentiometer (R1) and Loop BW switch (S1) and monitored by the lock indicator (DS1) and the Phase Error Meter (M1). The Phase Lock Loop provides, via the Delay Line, and Output Card, a phase coherent clock to the Decision Unit to perform sampling for the proper data decision output to the Output Card. This clock also samples the magnitude detector soft decisions and provides these two decisions to the Output Card for buffering and conversion to TTL levels. The Output Card also provides for selection of the internal clock or external clock.

3.3 Detailed Description

Schematics and assemblies of the cards described below are found in Section 4.0.

3.4 Matched Filter (Reference Drawing 417304)

For nonband limited NRZ PCM plus noise, a matched filter sliding integral $\int_{t-T}^{t} f(\tau)\, d(\tau)$ is realized by polynominal approximation. The 4th order filter is realized by

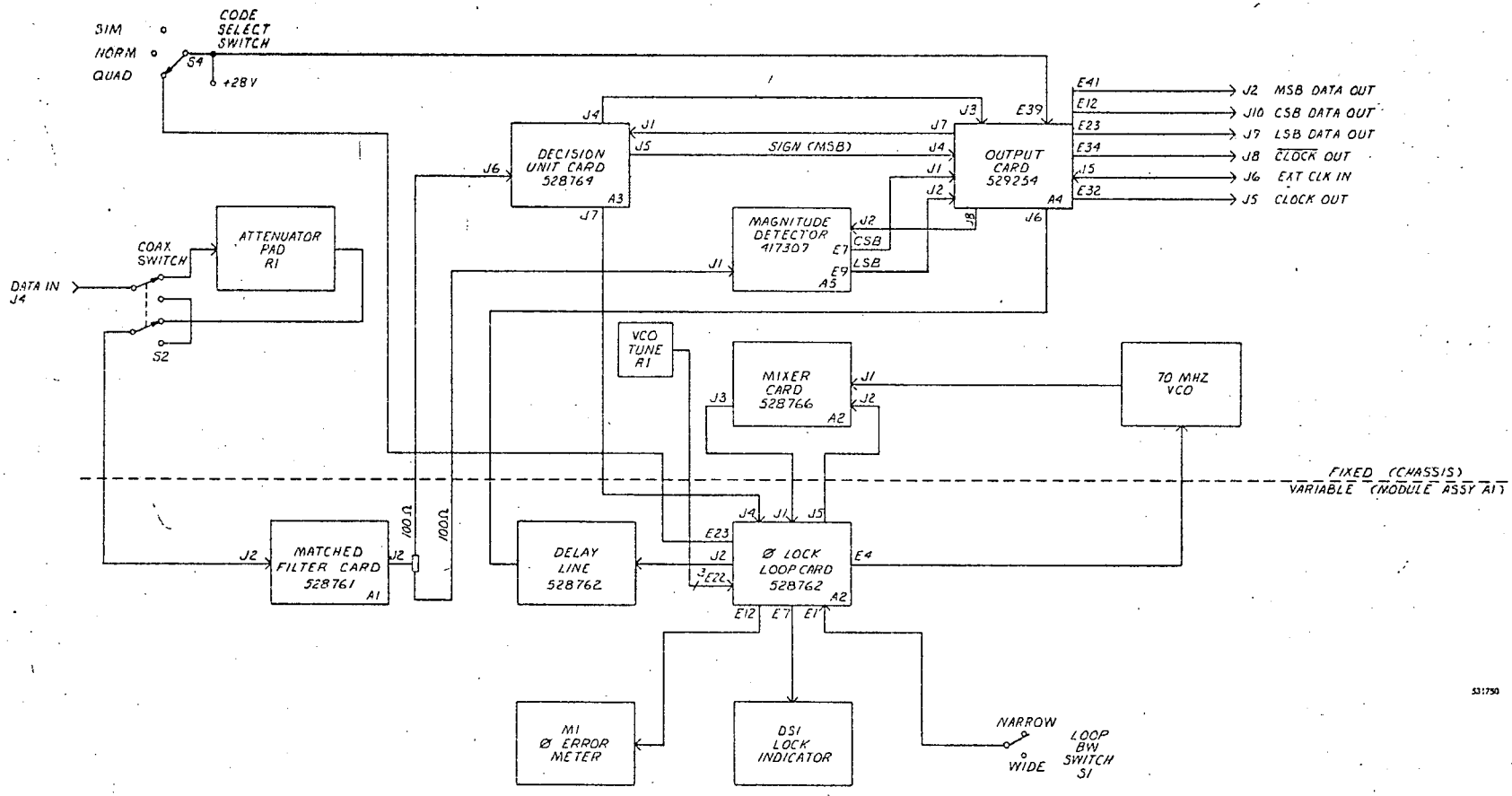


Figure 3.2. Block Diagram

the passive components associated with AR1. The response of this filter to a PCM data word is shown on the referenced drawing. The Matched Filter card also contains baseline correction circuitry which consists mainly of AR2, AR3 and associated components. This circuitry contains positive and negative peak detectors and the summing amplifier AR2. Operating on the Matched Filter output, the difference between the positive and negative peak measurement is used to add an offset into the matched filter input such that the offset at the output of the Matched Filter tends toward zero. This conditions the filter output for the maximum likelihood decision to be made by the Decision Unit.

3.5 Decision Unit (Reference Drawing 417307)

In the Decision Unit, the output of the Matched Filter is continuously compared to a reference voltage. This reference voltage is coupled to the three differential stages comprised of Q1 - Q2, Q5 - Q6, and Q9 - Q10. Each output of these differential stages are coupled to level converters Q3 - Q4, Q7 - Q8, and Q11 - Q12. This conversion is from bipolar to ECL levels. The bit sync clock is coupled to the flip-flop Z2 and the data decision is coupled to the "D" input of this flip-flop. This data is sampled with the clock and coupled to J5. The clock is coupled to a gate (Z1) to provide the proper phase relation of 0° clock to J4. To establish a bit rate component, data transitions are coupled to flip-flops Z3 and Z6 which contain fixed delays. These flip-flops provide 10 nanosecond pulses to the "OR" gate Z4. These pulses are coupled to J7 as Data Transitions.

3.6 Phase Lock Loop Card (Reference Drawing 417305)

The Phase Lock Loop contains a pulse stretcher (Z1) and low pass filters C17, L7, and L8. This circuitry converts the bit rate 10 nanosecond pulses from the Decision Unit to approximately half bit period pulses to the Mixer A1. The pulses are mixed with the Mixer Card output to provide a phase error signal to the loop filter AR1. Here the loop filter bandwidth is chosen by K1. The output of AR1 is a dc control voltage used to drive the 70 MHz vco to the proper frequency to lock the loop. The phase voltage from A1 is also coupled to an amplifier AR3 which drives the Ø error meter M1 and provides the buffered control voltage to the comparator circuitry AR2 to provide an output when the control voltage is within approximately 250 mV to 0 volts dc. The vco tuning pot R1 is connected to AR1 to provide the necessary correction voltage to adjust the loop frequency to that of bit rate. Q1 provides buffering and level transformation to the 90° clock and the delayed bit sync clock. Oscillator Y1 is provided to generate the frequency necessary to mix with 70 MHz to produce bit rate.

3.7 Mixer Card (Reference Drawing 417308)

The Mixer Card accepts two frequency inputs and outputs the difference frequency at J3. The fixed frequency 70 MHz - f_{BR} from Y1 is connected to J2 and the 70 MHz

vco output is connected to J1. These frequencies are mixed at mixer, A1. The output of this mixer contains the sum and difference frequencies and only the difference frequency is passed through the active low pass amplifier AR1 and ac coupled to J3.

3.8 Magnitude Detector (Reference Drawing 417309)

The magnitude detector card accepts the filtered data from the Matched Filter and clock from the output card. The magnitude detector contains six (6) threshold detectors identical to section G shown in the reference drawing. Each of these threshold detectors provides an ECL output when the dc reference level on the base of Q3 is exceeded by the input signal level. These six outputs (G, F, E, C, B, A) are provided to the combining logic Z1, Z2, Z3, Z6, and Z7 which translates the six (6) decisions into two data bits, CSB (center significant bit), and LSB (least significant bit). These two data outputs are provided to the output card for buffering and level conversion by the clocked flip-flops Z4 and Z5.

3.9 Output Card (Reference Drawing 417311)

The Output Card accepts all signals to be outputted at the rear panel and provides buffering and level translation. The card also provides for selecting an external clock or internal clock (bit sync clock) for the Decision Unit and Magnitude Detector. This is accomplished by K1 selecting the proper logic level for Z4 to gate the selected clock source. The CSB, LSB, and 0^{o} clock are provided to gates Z1 and Z2 for coupling to current mode switches Q1 through Q5 and translated to TTL by Q7 and Q8. Buffers 2 and 3 are identical to Buffer #1. The sign bit is coupled to current mode switches Q9 through Q12 and translated to TTL by Q13. All outputs to the rear panel are designed to drive 100 ohms cable terminated in its characteristic impedance to +5 vdc.

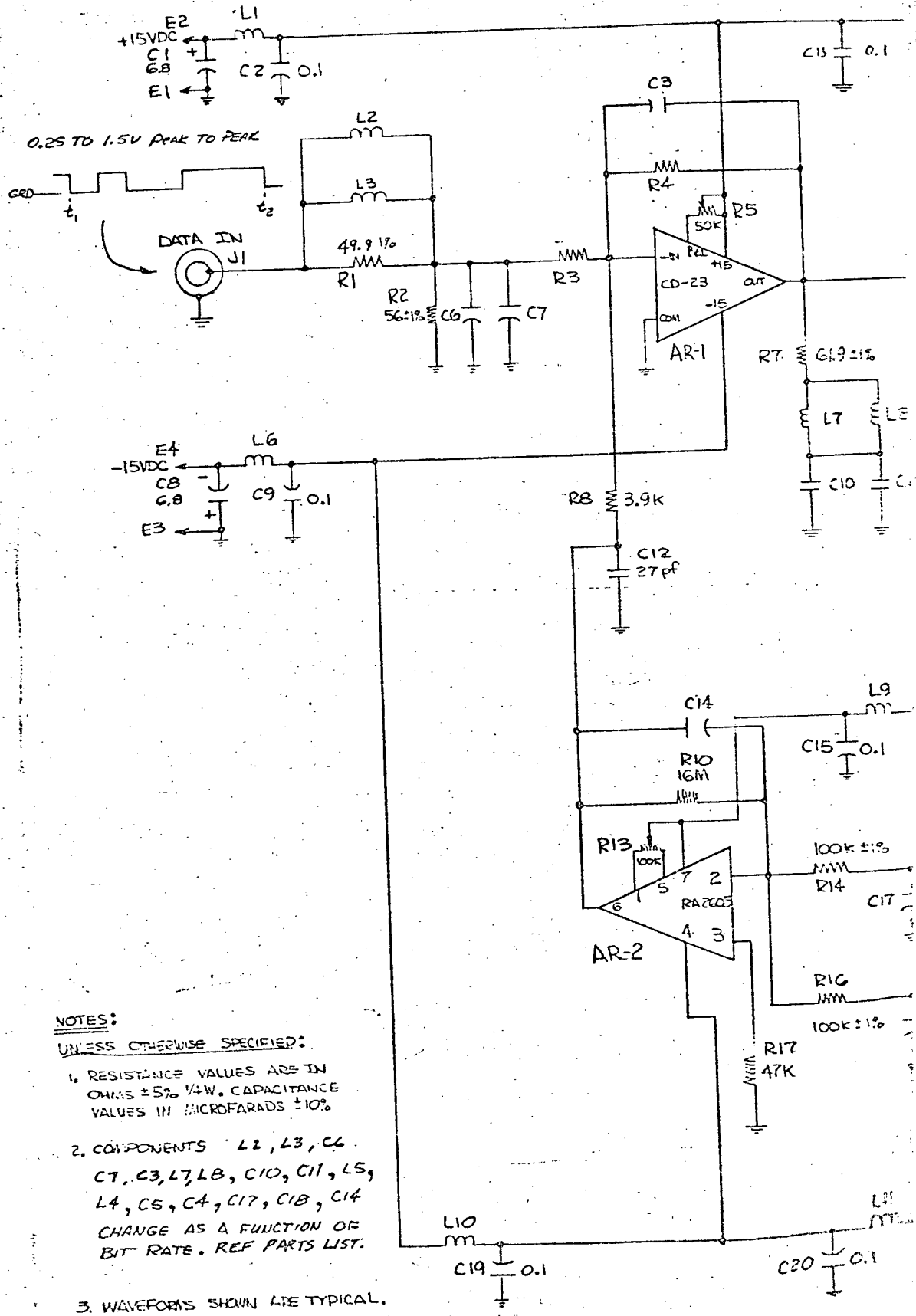
SECTION 4.0

SCHEMATIC AND ASSEMBLY DRAWINGS

4.0 SCHEMATIC AND ASSEMBLY DRAWINGS

Drawing Number	Title
528795	Drawing Tree
417304	Schematic, Matched Filter
528761	Assembly, Matched Filter
417305	Schematic, Phase Lock Loop
528762	Assembly, Phase Lock Loop
417307	Schematic, Decision Unit
528764	Assembly, Decision Unit
417308	Schematic, Mixer
528766	Assembly, Mixer
417309	Schematic, Magnitude Detector
612920	Assembly, Magnitude Detector
417311	Schematic, Output Card
529254	Assembly, Output Card
531758	Connection Diagram, Module Assembly
613574	Connection Diagram, Bit Synchronizer

FOLDOUT FRAME



NOTES:

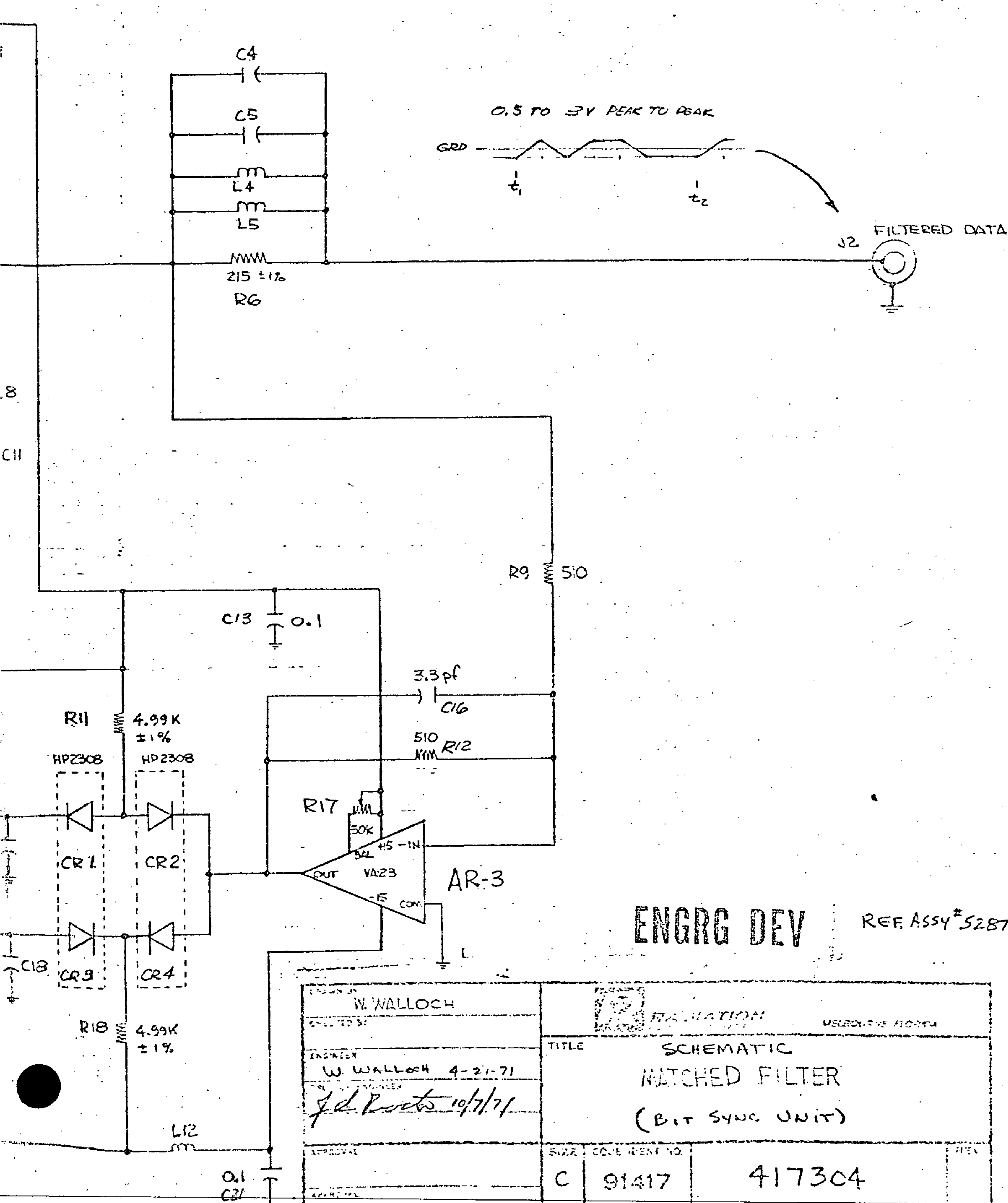
UNLESS OTHERWISE SPECIFIED:

1. RESISTANCE VALUES ARE IN OHMS ±5% 1/4W. CAPACITANCE VALUES IN MICROFARADS ±10%

2. COMPONENTS L2, L3, C6, C7, C3, L7, L8, C10, C11, L5, L4, C5, C4, C17, C18, C14 CHANGE AS A FUNCTION OF BIT RATE. REF PARTS LIST.

3. WAVEFORMS SHOWN ARE TYPICAL.

FOLDOUT FRAME 2



ENGRG DEV

REF ASSY # 528761

DRAWN BY W. WALLOCH	RADIATION		MELBOURNE, FLORIDA
CHECKED BY	TITLE SCHEMATIC MATCHED FILTER (BIT SYNC UNIT)		
ENGINEER W. WALLOCH 4-21-71			
J.d. Roets 10/7/71			
APPROVAL	SIZE C	CODE IDENT NO. 91417	417304
	SCALE		SHEET 1 OF 1

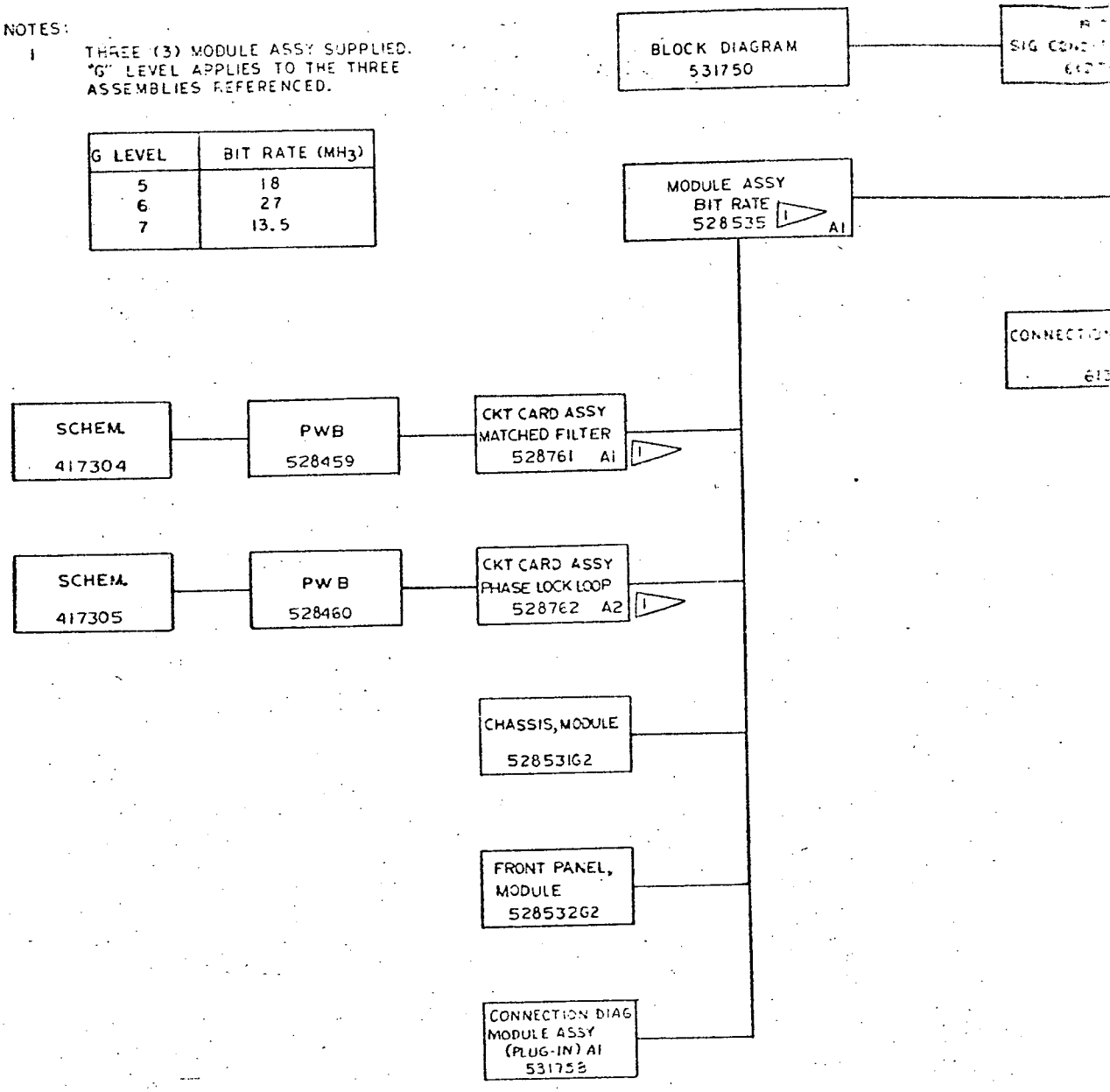
77-1112 MF 10-14-71

FOLDOUT FRAME 1

NOTES:

1 THREE (3) MODULE ASSY SUPPLIED. "G" LEVEL APPLIES TO THE THREE ASSEMBLIES REFERENCED.

G LEVEL	BIT RATE (MH_3)
5	18
6	27
7	13.5



FOLDOUT FRAME 2

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
	A	CHG BY G RAY 12-71 CHK BY ECO NO 41102-541		
		REVISED PER EDC	1/4/72	

ASSY
795G2

ATP
125113

ON DIAGRAM
13574

HOUSING-MOD
612794G2

CKT CARD ASSY MIXER 528766 A2 → PWB 528765 → SCHEM. 417308

BRACKET 528534-1

CKT. CARD ASSY DECISION UNIT 528764 A3 → PWB 528472 → SCHEM. 417307

BRACKET 528533-1

OUTPUT BUFFER CARD 529254 A4 → PWB 529253 → SCHEM. 417311

BRACKET, COMPONENT 528547-1

CKT. CARD ASSY MAGNITUDE DET. 612920 A5 → PWB 612919 → SCHEM. 417309

528795 REV A

SHAFT, REMOTE 307166-1

BRACKET PWR SUPPLY 528530G1

GUIDE, MODULE 417130-1

ENGRG DEV

ITEM NO.	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	CODE IDENT
QUANTITY REQUIRED		LIST OF MATERIALS OR PARTS LIST	

PART TO BE FREE OF BURRS AND SHARP EDGES
COMMERCIAL TOLERANCES APPLY TO STOCK SIZES
MANUFACTURING TOLERANCES PER 800060
SURFACE FINISH PER 800060
SCREW THREADS PER MIL-STD-8
ABBREVIATIONS PER MIL-STD-12
ELECTRICAL & ELECTRONIC SYMBOLS PER MIL-STD-15
REFERENCE DESIGNATIONS PER MIL-STD-16
DIMENSIONS AND SYMBOLS PER MIL-STD-8
→ SYMMETRY
Ⓜ MAXIMUM MATERIAL CONDITION
Ⓢ REGARDLESS OF FEATURE SIZE
— FLATNESS AND STRAIGHTNESS
∠ ANGULARITY ⊥ PERPENDICULARITY
// PARALLELISM ◎ CONCENTRICITY
⌖ TRUE POSITION ○ ROUNDNESS

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE APPLIED FINISH TOLERANCES
2 PLACE DIM ± 3 PLACE DIM ± ANGLES ±

CONTRACT NO.
DR BY E. FLOYD 10/23/70 CHK BY
DESIGNER T. LANGLEY 10/23/70
PROJECT ENGINEER
APPROVAL
RELEASE

RADIATION INCORPORATED

TITLE
BIT SYNCHRONIZER, SIGNAL CONDITIONER DRAWING TREE

SIZE	CODE IDENT NO		REV
D	91417	528795	A

SCALE NONE SHEET

PART NO	NEXT ASSY	USED ON
	612795	1677-0201

APPLICATION

MFG 11/30/70

APPLICATION		
DASH NO.	NEXT ASSY	USED ON
G1-4	528535	6754
G5-7	528535	6803-2002

REVISIONS					
LTR	DESCRIPTION			DATE	APPROVED
	CHG BY	CHK BY	ECO NO.		

ENGRG DEV

REVISION INDEX																												
SHEET	1	2	3	4	5	6	7	8	9																			
REV																												

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE APPLIED FINISH TOLERANCES

PLACE	3 PLACE	ANGLES
±	±	±

CONTRACT NO.

DR BY B.Ray 5/28/71 | CHK BY

ENGINEER

PROJECT ENGINEER 6/7/71

APPROVAL

APPROVAL

27

RADIATION INCORPORATED

SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

TITLE

PARTS LIST -
MATCHED FILTER ASSEMBLY

SIZE	CODE IDENT NO.		REV
A	91417	PL 528761	

SCALE NONE | SHEET 1 OF 10

ITEM	QTY PER ASSY LEVEL G1	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION	CODE IDENT
1	1		CD-23		LINE DRIVER, DDC, AR-1	
2	8		CK06BX104K		CAPACITOR, FXD, CER, C2, 13, 9, 19, 20, 21, 15, 13	
3	1		CN0533		CAPACITOR, FXD, CER, C16	
4	2		CS13BF685K		CAPACITOR, FXD, TANT, C1, C8	
5	1		RA2-2605-5		DC VIDEO AMP, HARRIS, AR-2	
6	1		RCR07G166JS		RES, FXD, R10	
7	1		RCR07G392JS		RES, FXD, R8	
8	2		RN60C4991F		RES, FXD, R18, R11	
9	1		RCR07G473JS		RES, FXD, R17	
10	2		RCR07G511JS		RES, FXD, R9, R12	
11	2		RN60C1003F		RES, FXD, R14, R16	
12	1		RN60C2150F		RES, FXD, R6	
13	1		RN60C49R9F		RES, FXD, R1	
14	1		RN60C61R9F		RES, FXD, R7	
15	1		RN65C56R2F		RES, FXD, R2	
16	1		VA-23		INTEGRATED CIRCUIT, OPNL AMP, DDC, AR-3	
17	6		VK-200-20-4B		BEAD, FERRX CUBE, L1, 6, 10, 11, 12, 9	
18	2		2066-1322		CONNECTOR, AMERICON, J1, J2	
19	1		3251W-1-104		RES, VAR, BOURNS, R13	
20	2		3251W-1-503		RES, VAR, BOURNS, R5, R17	
21	2 PR		5802-2308		DIODE, MTCHD PR, HP, CR1, CR2	
22	2		CK05BX391K		CAPACITOR, FXD, C18, C17	
23	1		CM05FD121J03		CAPACITOR, FXD, C7	
24	1		CM05CD100J03		CAPACITOR, FXD, C9	
25	1		CM05ED680J03		CAPACITOR, FXD, C5	
26	1		CM05FD151J03		CAPACITOR, FXD, C10	
27	1		CN0533		CAPACITOR, FXD, C14	
28	1		LF4W016		INDUCTOR, FXD 0.16 U, JFD, L7	
29	1		LF4W030		INDUCTOR, FXD, 0.3 UH, JFD, L3	
30	1		LF4W040		INDUCTOR, FXD, 0.4 UH, JFD, L5	
31	1		CM15E270JN3		CAPACITOR, FXD, C12	
32	1		RN60C3920F		RES, FXD, R3	
33	1		RN60C8060F		RES, FXD, R4	
34	REF		CM528459-1		CIRCUIT MASTER	
	REF		417304		SCHEMATIC DIAGRAM	

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

SIZE	CODE IDENT NO.		REV
A	91417	PL 528761	
SCALE		SHEET 2	

ITEM	QTY PER ASSY LEVEL G2	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION
1	1		CD-23		LINE DRIVER, DDC, AR-1
[illegible]	8		CK06BX104K		CAPACITOR, FXD, C2,13,9,19,20,21,15,18
[illegible]	1		CN0533		CAPACITOR, FXD, C16
4	2		CS13BF685K		CAPACITOR, FXD, C1, C8
5	1		RA2-2605-5		DC VIDEO AMP, HARRIS, AR-2
[illegible]	1		RCR07G166JS		RES, FXD, R10
[illegible]	1		RCR07G392JS		RES, FXD, R8
[illegible]	2		RN60C4991F		RES, FXD, R18, R11
9	1		RCR07G473JS		RES, FXD, R17
10	2		RCR07G511JS		RES, FXD, R9, R12
11	2		RN60C1003F		RES, FXD, R14, R16
12	1		RN60C2150F		RES, FXD, R6
13	1		RN60C49R9F		RES, FXD, R1
14	1		RN60C61R9F		RES, FXD, R7
15	1		RN65C56R2F		RES, FXD, R2
16	1		VA-23		INTEGRATED CIRCUIT, OPNL AMP, DCC, AR-3
17	6		VK-200-20-4B		BEAD, FERRX CUBE, L1, 6,10,11,12,9
18	2		2066-1322		CONNECTOR, AMERICON, J1, J2
19	1		3251W-1-104		RES, VAR, BOURNS, R13
20	2		3251W-1-503		RES, VAR, BOURNS, R5, R17
21	2 PR		5802-2308		DIODE, MTCHD PR, HP, CR1, CR2
22	2		CK05BX681K		CAPACITOR, FXD, C18,C17
23	1		CM05CD120J03		CAPACITOR, FXD, C7
24	1		CM05FD101J03		CAPACITOR, FXD, C3
25	1		CM05FD221J03		CAPACITOR, FXD, C5
26	1		CM05FD271J03		CAPACITOR, FXD, C10
27	1		CN0547		CAPACITOR, FXD, C14
28	1		LF4W025		INDUCTOR, FXD, 0.16U, JFD, L7
29	1		LF4W050		INDUCTOR, FXD, 0.3 UH, JFD, L3
30	1		LF4W070		INDUCTOR, FXD, 0.4 UH, JFD, L5
31	1		CM15E270JN3		CAPACITOR, FXD, C12
32	1		RN60C3920F		RESISTOR, FXD, R3
[illegible]	1		RN60C8060F		RESISTOR, FXD, R4
34	1		CM528459-1		CIRCUIT MASTER
[illegible]	1		417304		SCHEMATIC DIAGRAM

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

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SIZE	CODE IDENT NO.		REV
A	91417	PL 528761	
SCALE			SHEET 3

ITEM	QTY PER ASSY LEVEL G3	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION
1	1		CD-23		LINE DRIVER, DDC, AR-1
[redacted]	8		CK06BX104K		CAPACITOR, FXD, CER, C2,13,9,19,20,21,15,13
[redacted]	1		CN0533		CAPACITOR, FXD, CER, C16
4	2		CS13BF685K		CAPACITOR, FXD, TANT, C1, C8
5	1		RA2-2605-5		DC VIDEO AMP, HARRIS, AR-2
6	1		RCR07G166JS		RES, FXD, R10
7	1		RCR07G392JS		RES, FXD, R8
8	2		RN60C4991F		RES, FXD, R18, R11
9	1		RCR07G473JS		RES, FXD, R17
10	2		RCR07G511JS		RES, FXD, R9, R12
11	2		RN60C1003F		RES, FXD, R14, R16
12	1		RN60C2150F		RES, FXD, R6
13	1		RN60C49R9F		RES, FXD, R1
14	1		RN60C61R9F		RES, FXD, R7
15	1		RN65C56R2F		RES, FXD, R2
16	1		VA-23		INTEGRATED CIRCUIT, OPNL AMP, DDC, AR-3
17	6		VK-200-20-4B		BEAD, FERRX CUBE, L1,6,10,11,12,9
18	2		2066-1322		CONNECTOR, AMERICON, J1, J2
19	1		3251W-1-104		RES, VAR, BOURNS, R13
20	2		3251W-1-503		RES, VAR, BOURNS, R5, R17
21	2 PR		5802-2308		DIODE, MTCHD PR, HP, CR1, CR2
22	2		CK06BX272K		CAPACITOR, FXD, C18, C17
23	1		CM05FD391J03		CAPACITOR, FXD, C5
24	1		CM06FD122J03		CAPACITOR, FXD, C10
25	1		CM06FD821J03		CAPACITOR, FXD, C7
26	1		CM05FD050J03		CAPACITOR, FXD, C3
27	1		CM05FD180J03		CAPACITOR, FXD, C14
28	1		CM05FD101J03		CAPACITOR, FXD, C12
29	1		RN60C3921F		RES, FXD 1 R3
30	1		RN60C8061F		RES, FXD R4
31	1		LF4W100		INDUCTOR, FXD L7
32	1		WEE-WEE-2.2		INDUCTOR, FXD L3
[redacted]	1		WEE-WEE-2.7		INDUCTOR, FXD L5
34	1		CM528459-1		CIRCUIT MASTER
[redacted]	1		417304		SCHEMATIC DIAGRAM

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

SIZE	CODE IDENT NO.	3.75 MB	REV
A	91417	PL528761	
SCALE			SHEET 4

30

ITEM	QTY PER ASSY LEVEL G4	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION	
1	1		CD-23		LINE DRIVER	AR1
	8		CK06BX104K		CAPACITOR, FXD	C2,9,13,15,19,20,21
	1		CN0533		CAPACITOR, FXD	C16
4	2		CS13BF685K		CAPACITOR, FXD	C1,8
5	1		RA2-2605-5		DC VIDEO AMP	AR2
6	1		RCR07G166JS		RES, FXD	R10
	1		RCR07G392JS		RES, FXD	R8
	2		RN60C4991F		RES, FXD	R11,18
9	1		RCR07G473JS		RES, FXD	R15
10	2		RCR07G511JS		RES, FXD	R9,12
11	2		RN60C1003F		RES, FXD	R16,14
12	1		RN60C2150F		RES, FXD	R6
13	1		RN60C49R9F		RES, FXD	R1
14	1		RN60C61R9F		RES, FXD	R7
15	1		RN65C56R2F		RES, FXD	R2
16	1		VA-23		INTEGRATED CIRCUIT, OPNL AMP	AR3
17	6		VK-200-20-4B		BEAD, FERRX CUBE	L1,6,19,11,12,9
18	2		2066-1322		CONNECTOR	J1,2
19	1		3251W-1-104		RES, VAR	R13
20	2		3251W-1-503		RES, VAR	R17,5
21	2 PR		5802-2308		DIODE, MTCHD PR	CR1 & 3, CR2 & 4
22	2		CK06BX682K		CAPACITOR, FXD	C17,18
23	1		CM06FD102J03		CAPACITOR, FXD	C5
24	1		CM06FD222J03		CAPACITOR, FXD	C7
25	1		CM06FD272J03		CAPACITOP, FXD	C10
26	1		WEE-WEE-2.7		INDUCTOR, FXD	L7
27	1		WEE-WEE-5.6		INDUCTOR, FXD	L3
28	1		WEE-WEE-6.8		INDUCTOR, FXD	L5
29	1		CM15E270JN3		CAPACITOR, FXD	C12
30	1		CM05FD120JN3		CAPACITOR, FXD	C3
31	1		CM05FD300JN3		CAPACITOR, FXD	C14
32	1		RN60C3921F		RES, FXD	R3
	1		RN60C8061F		RES, FXD	R4
34	REF		CM528459-1		CIRCUIT MASTER	
	REF		417304		SCHEMATIC DIAGRAM	

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS INTERTYPE CORPORATION, MELBOURNE, FLORIDA

SIZE	CODE IDENT NO.	1.5 MB	REV
A	91417	PL 528761	
SCALE	3/		SHEET

ITEM	QTY PER ASSY LEVEL G5	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION
1	1		CD-23		LINE DRIVER, AR1
	8		CK06BX104K		CAPACITOR, FXD, C2, C9, C13, C15, C19,
					C20, C21
3	1		CN0533		CAPACITOR, FXD, C16
4	2		CS13BF685K		CAPACITOR, FXD, C1, C8
5	1		RA-2-2605-5		DC VIDEO AMP, AR2
	1		RCR07G166JS		RES, FXD, R10
	1		RN60C4991F		RES, FXD, R8
8	2		RCR07G471JS		RES, FXD, R11, R18
9	1		RCR07G473JS		RES, FXD, R15
10	2		RCR07G511JS		RES, FXD, R9, R12
11	2		RN60C1003F		RES, FXD, R16, R14
12	1		RN60C2150F		RES, FXD, R6
13	1		RN60C49R9F		RES, FXD, R1
14	1		RN60C61R9F		RES, FXD, R7
15	1		RN65C56R2F		RES, FXD, R2
16	1		VA-23		INTEGRATED CIRCUIT, OPNL AMP, AR3
17	6		VK-200-20-4B		BEAD, FERRX CUBE, L1, L6, L10, L11, L12, L9
18	2		2066-1322		CONNECTOR, J1, J2
19	1		3251W-1-104		RES, VAR, R13
20	2		3251W-1-503		RES, VAR, R17, R5
21	2 PR		5802-2308		DIODE, MTCHD PR, CR1& CR3, CR2 & CR4
22	2		LF4W060		INDUCTOR, FXD, 0.6 UH, L5, L7
23	1		LF4W100		INDUCTOR, FXD, 1.0 UH, L2
24	1		LF4W080		INDUCTOR, FXD, 0.8 UH, L3
25	1		LF4W035		INDUCTOR, FXD, 0.35 UH, L8
26	2		CM15CD470JN1		CAPACITOR, FXD, C4, C11
27	3		CM15CD181JN1		CAPACITOR, FXD, C6, C7, C10
28	1		CM15CD390JN1		CAPACITOR, FXD, C5
29	1		CM15CD4R7JN1		CAPACITOR, FXD, C3
30	2		CK06BX561K		CAPACITOR, FXD, C17, C18
31	1		LF4W600		INDUCTOR, FXD, 6.0 UH, L4
32	REF		CM528459-1		CIRCUIT MASTER
33	REF		417304		SCHEMATIC DIAGRAM
	1		RN60C3920F		RES, FXD, R3

RADIATION INCORPORATED
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SIZE	CODE IDENT NO.	18M6	REV
A	91417	PL 528761	
SCALE			SHEET 6

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G5	DWG SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION
35	1		RN60C8060F		RES, FXD, R4
	1		CM15E270JN3		CAP, FXD C12

	SIZE	CODE IDENT NO.		REV
RADIATION INCORPORATED SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA	A	91417	18MB PL528761	
	SCALE			SHEET 7

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G6	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION
1	1		CD-23		LINE DRIVER DDC,AR1
2	8		CK06BX104K		CAPACITOR, FXD C2,13,9,19,20,21,15,13
3	1		CN0533		CAPACITOR, FXD C16
4	2		CS13BF685K		CAPACITOR, FXD C1,8
5	1		RA-2-2605-5		DC VIDEO AMP HARRIS,AR2
6	1		RCR07G166JS		RES, FXD R10
7	1		RCR07G392JS		RES, FXD R8
8	2		RN60C4991F		RES, FXD R18,11
9	1		RCR07G473JS		RES, FXD R17
10	2		RCR07G511JS		RES, FXD R9,12
11	2		RN60C1003F		RES, FXD R14,16
12	1		RN60C2150F		RES, FXD R6
13	1		RN60C49R9F		RES, FXD R1
14	1		RN60C61R9F		RES, FXD R7
15	1		RN65C56R2F		RES, FXD R2
16	1		VA-23		INTEGRATED CIRCUIT, OPNL AMP,DDC,AR3
17	6		VK-200-20-4B		BEAD, FERRX CUBE L1,6,10,11,12,9
18	2		2066-1322		CONNECTOR AMERICON,J1,2
19	1		3251W-1-104		RES, VAR BOURNS,R13
20	2		3251W-1-503		RES, VAR BOURNS,R5,17
21	2 PR		5802-2308		DIODE, MTCHD PR CR1,CR2, HP
22					
23	1		LFW035		INDUCTOR, FXD,0.35 UH, L4
24	1		LF4W035		INDUCTOR, FXD, 0.35 UH, L7
25	1		LF4W030		INDUCTOR, FXD, 0.3 UH, L2,
26	1		CM15CD151JN1		CAPACITOR, FXD, C10,
27	1		CM15CD560JN1		CAPACITOR, FXD, C4,
28	1		CM15CD101JN1		CAPACITOR, FXD, C6,
29					
30	2		CK06BX361K		CAPACITOR, FXD, C17, C18
31	1		LF4W025		INDUCTOR, FXD, 0.25 UH, L8
32	REF		CM528459-1		CIRCUIT MASTER
33	REF		417304		SCHEMATIC DIAGRAM
34	2		RN60C1470F		RES,FXD,R3,4
35	1		CM15CD270JN1		CAP,FXD,C12

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

SIZE	CODE IDENT NO.		REV
A	91417	27MB PL528761	
SCALE			SHEET 8

FORM RM 45V-5 (REV. 5-68)

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G7	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION	
1	1		CD-23		LINE DRIVER	DDC, AR1
2	8		CK06BX104K		CAPACITOR, FXD	C2,13,9,19,20,21,15,13
3	1		CN0533		CAPACITOR, FXD	C16
4	2		CS13BF685K		CAPACITOR, FXD	C1,8
5	1		RA2-2605-5		DC VIDEO AMP	HARRIS, AR2
6	1		RCR07G166JS		RES, FXD	R10
7	1		RCR07G392JS		RES, FXD	R8
8	2		RN60C4991F		RES, FXD	R18,11
9	1		RCR07G473JS		RES, FXD	R17
10	2		RCR07G511JS		RES, FXD	R9,12
11	2		RN60C1003F		RES, FXD	R14,16
12	1		RN60C2150F		RES, FXD	R6
13	1		RN60C49R9F		RES, FXD	R1
14	1		RN60C61R9F		RES, FXD	R7
15	1		RN65C56R2F		RES, FXD	R2
16	1		VA-23		INTEGRATED CIRCUIT, OPNL AMP, DDC, AR3	
17	6		VK-200-20-4B		BEAD, FERRX CUBE	L1,6,10,11,12,9
18	2		2066-1322		CONNECTOR	AMERICON, J1,2
19	1		3251W-1-104		RES, VAR	BOURNS, R13
20	2		3251W-1-503		RES, VAR	BOURNS, R5,17
21	2 PR		5802-2308		DIODE, MTCHD PR	CR1, CR2, HP
22	1		LF4W060		INDUCTOR, FXD	L2,
23	1		LF4W100		INDUCTOR, FXD	L4
24	1		WEE-WEE-3.3		INDUCTOR, FXD	L5
25	1		LF4W030		INDUCTOR, FXD	L7
26	1		CM15CD221JN1		CAPACITOR, FXD	C6
27	2		CM15CD150JN1		CAPACITOR, FXD	C7, C3
28	1		CM15CD121JN1		CAPACITOR, FXD	C4
29	1		CM15CD271JN1		CAPACITOR, FXD	C10
30	1		CM15CD330JN1		CAPACITOR, FXD	C11
31	2		GP375		CAPACITOR	C18,17
32	1		CN0568		CAPACITOR	C14
33	1		CM15ED390J03		CAPACITOR	C12
34	1		RN60C392GF		RES, FXD,	R3
35	1		RN60C8060F		RES, FXD	R4

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

SIZE	CODE IDENT NO.	13.5 MB	REV
A	91417	PL 528761	
SCALE			SHEET 9

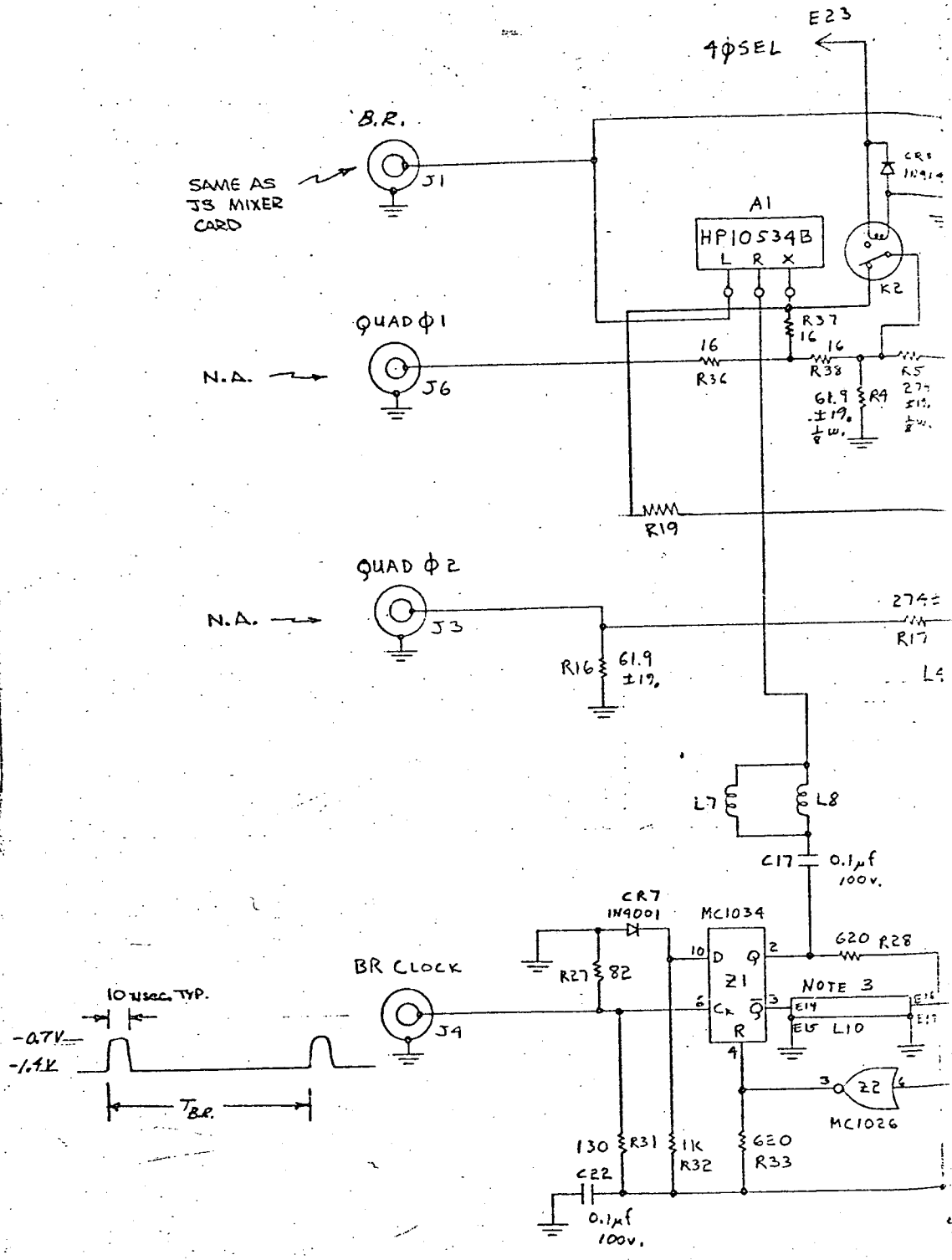
U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G7	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION
36	REF		CM528459-1		CIRCUIT MASTER
	REF		417304		SCHEMATIC DIAGRAM
38	1		CM153270JN3		CAP, FXD, C12

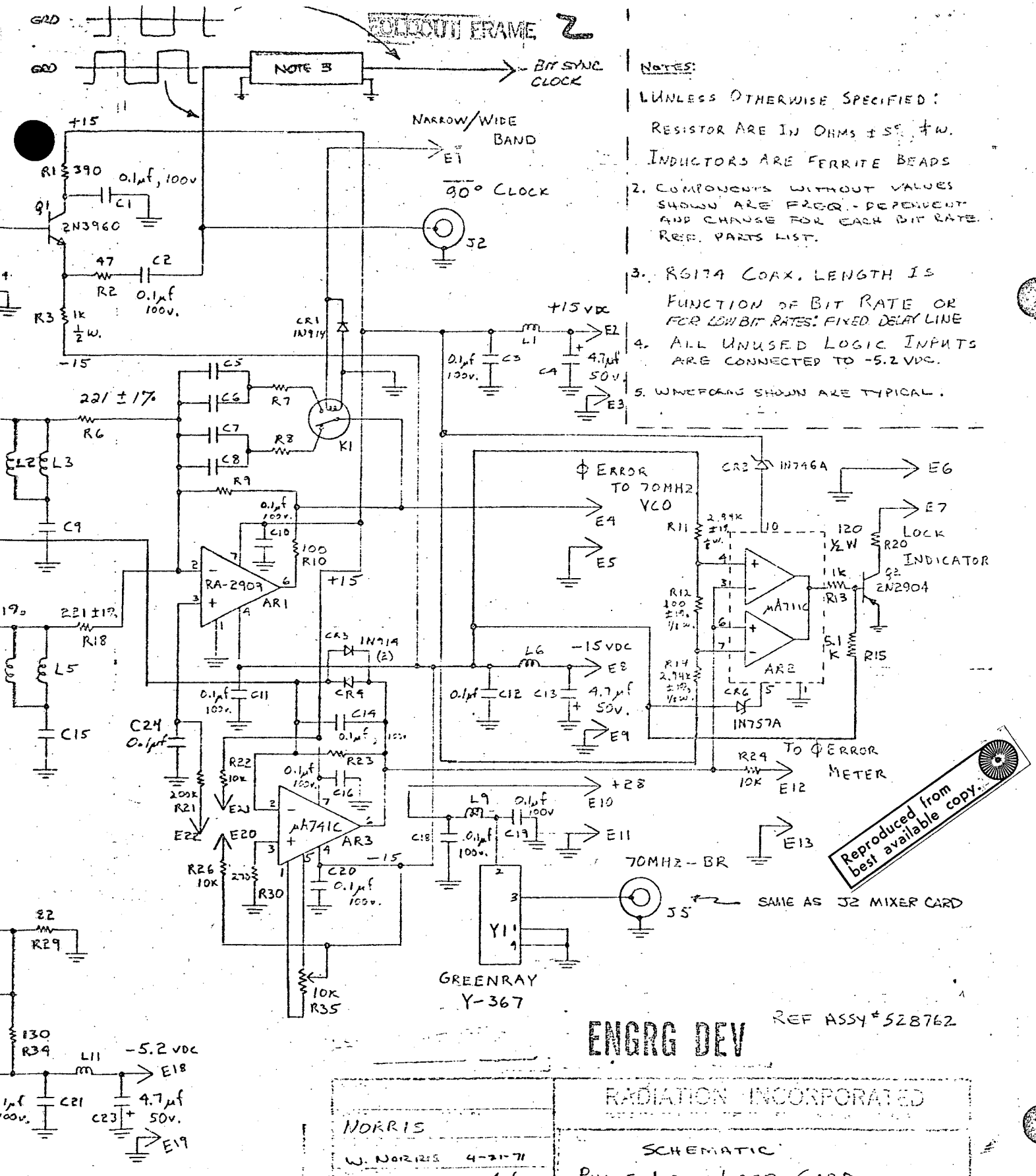
RADIATION INCORPORATED
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

SIZE	CODE IDENT NO.	13.5MB	REV
A	91417	PL 528761	
SCALE	3/4	SHEET	10

FOLDOUT FRAME



FOLDOUT FRAME 2



NOTES:

1. UNLESS OTHERWISE SPECIFIED:
   RESISTOR ARE IN OHMS ± 5%, ¼ W.
   INDUCTORS ARE FERRITE BEADS
2. COMPONENTS WITHOUT VALUES SHOWN ARE FREQ.-DEPENDENT AND CHANGE FOR EACH BIT RATE. REF. PARTS LIST.
3. RG174 COAX. LENGTH IS FUNCTION OF BIT RATE OR FOR LOW BIT RATES: FIXED DELAY LINE
4. ALL UNUSED LOGIC INPUTS ARE CONNECTED TO -5.2 VDC.
5. WAVEFORMS SHOWN ARE TYPICAL.

REF ASSY # 528762

ENGRG DEV

NORRIS W. NORRIS 4-21-71 J.L. Pratt 10/7/71	RADIATION INCORPORATED SCHEMATIC PHASE LOCK LOOP CARD (BIT SYNC UNIT)
	C 91417 417305
	SCALE 1 of 1

1677-H12 MF 10-14-71

APPLICATION			REVISIONS					
DASH NO.	NEXT ASSY	USED ON	LTR	DESCRIPTION			DATE	APPROVED
				CHG BY	CHK BY	ECO NO.		
31-4	528535	6754						
35-1	528535	6803-2002						

ENGRG DEV

REVISION INDEX	SHEET	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	REV															

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE APPLIED FINISH TOLERANCES
2 PLACE ± 3 PLACE ± ANGLES ±

CONTRACT NO.

DR BY B. Ray 5/28/71 CHK BY

ENGINEER

PROJECT ENGINEER. Neil Francis 10/7/71

APPROVAL

APPROVAL

39

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

TITLE

PARTS LIST -
PHASE LOCKED LOOP ASSY

SIZE	CODE IDENT NO.		REV
A	91417	PL 528762	

SCALE NONE SHEET 1 OF 1

U.S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G1	DWG SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION CODE IDENT
	15		CK06BX104K		CAPACITOR, FXD, C1,2,10,11,13,12,19,20,14,16,21, 24, 15
	3		CSR13G475KL		CAPACITOR, FXD, C23,4,13
	1		MC1023P		INTEGRATED CIRCUIT, DUAL CLK DRV MOTOROLA, Z2
4	1		MC1034P		INTEGRATED CIRCUIT, D FLIP FLOP, MOTOROLA, Z1
	1		RA-2909		INTEGRATED CIRCUIT, OPNL AMP, HARRIS, AR1
6	1		RCR07G101JS		RES, FXD, R10
	2		RCR07G102JS		RES, FXD, R32
	4		RCR07G103JS		RES, FXD, R26,22,24,13
	2		RCR07G131JS		RES, FXD, R31, R34
10	3		RCR07G160JS		RES, FXD, R36,37,38
11	1		RCR07G204JS		RES, FXD, R21
12	1		RCR07G271JS		RES, FXD, R30
13	1		RCR07G331JS		RES, FXD, R23
14	1		RCR07G391JS		RES, FXD, R1
15	1		RCR07G470JS		RES, FXD, R2
16	2		RCR07G621JS		RES, FXD, R28,33
17	2		RCR07G820JS		RES, FXD, R27,29
18	1		RCR20G102JS		RES, FXD, R3
19	1		RN60C1000F		RES, FXD, R12
20	2		RN60C2210F		RES, FXD, R6, R18
21	2		RN60C2740F		RES, FXD, R5, R17
22	2		RN60C2941F		RES, FXD, R11, R14
23					
24	1		U5B7741393		INTEGRATED CIRCUIT, OPNL AMP, FAIRCHILD, AR-3
25	1		U5F7711393		INTEGRATED CIRCUIT, DUAL COMP, FAIRCHILD, AR-2
26	4		VK-200-20-4B		BEAD, FERRX CUBE, L1,9,11,6
27	1		1N4001		DIODE, RECT, CR7
28	1		1N746A		DIODE, CR5
29	1		1N757A		DIODE, CR6
30	4		1N914		DIODE, CR3,4,1,8
31	1		10534B		MIXER, DOUBLE BALANCED, HP, A1
32	1		2N3960		TRANSISTOR, Q1
	6		2066-1322		CONNECTOR, AMERICON, J1,2,3,4,5,6
	1		3252X-1-103		POTENTIOMETER, BOURNS, R35
	2		412-12		RELAY, DPDT, TELEDYNE, K1, K2

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

SIZE	CODE IDENT NO.	25M5	REV
A	91417	PL 528762	

SCALE | SHEET 2

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G1	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION	CODE IDENT
36	1		2N2904		TRANSISTOR, Q1	
37	1		RCR07G512JS		RES, FXD, R15	
38	1		RCR20G121JS		RES, FXD, R20	
39	2		CM05FD121J03		CAPACITOR, FXD, C9, C15	
40	1		CN0450		CAPACITOR, FXD, C5	
41	1		LF4W020		INDUCTOR, FXD, JFD, L7	
42	2		LF4W040		INDUCTOR, FXD, JFD, L2, 4	
43	2		RCR07G152JS		RES, FXD, R19	
44	1		RN60C1471F		RES, FXD, R7	
45	1		RN60C2260F		RES, FXD, R6	
46	2		RN60C2740F		RES, FXD, R5	
47	2		RN60C61R9F		RES, FXDR4, 16	
48	1		RN60C8451F		RES, FXD, R9	
49	1		RN60C86R6F		RES, FXD, R8	
50	1		Y367L 45MHz		OSCILLATOR, GREENRAY, Y1	
51	1		192P4729R8		CAPACITOR, FXD, C8	
52	1		192P82192		CAPACITOR, FXD, C6	
53	1		192P8239R8		CAPACITOR, FXD, C7	
54	30 FT		RG-174/U		CABLE, COAX	
55	REF		CM528460-2		CIRCUIT MASTER	
56	REF		417305		SCHEMATIC DIAGRAM	

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

SIZE	CODE IDENT NO.		REV
A	91417	PL 528762	
SCALE		SHEET 2	

ITEM	QTY PER ASSY LEVEL G2	DWG. SIZE	PART OR IDENTIFYING NO	M P	NOMENCLATURE OR DESCRIPTION	CODE IDENT
	15		CK05BX104K		CAPACITOR, FXD C1-3,10-12,14,16-22,24	
	3		CSR13G475KL		CAPACITOR, FXD C23,4,13	
	1		MC1026P		INTEGRATED CIRCUIT, DUAL CLK DRV, MOTOROLA, Z2	
4	1		MC1034P		INTEGRATED CIRCUIT, D FLIP FLOP, MOTOROLA, Z1	
5	1		RA-2902		INTEGRATED CIRCUIT, OPNL AMP, HARRIS, AR1	
	1		RCR07G101JS		RES, FXD R1	
	2		RCR07G102JS		RES, FXD R32	
	3		RCR07G103JS		RES, FXD R26,22,24,13	
	2		RCR07G131JS		RES, FXD R31,34	
10	3		RCR07G160JS		RES, FXD R36 - 38	
11	1		RCR07G204JS		RES, FXD R21	
12	1		RCR07G271JS		RES, FXD R30	
13	1		RCR07G331JS		RES, FXD R23	
14	1		RCR07G391JS		RES, FXD R1	
15	1		RCR07G470JS		RES, FXD R2	
16	2		RCR07G621JS		RES, FXD R28,33	
17	2		RCR07G820JS		RES, FXD R27,29	
18	1		RCR20G102JS		RES, FXD R3	
19	1		RN60C1000F		RES, FXD R12	
20	2		RN60C2210F		RES, FXD R6,18	
21	2		RN60C2740F		RES, FXD R5,17	
22	2		RN60C2941F		RES, FXD R11,14	
23						
24	1		U5B7741393		INTEGRATED CIRCUIT, OPNL AMP, FAIRCHILD, AR3	
25	1		U5F7711393		INTEGRATED CIRCUIT, DUAL COMP, FAIRCHILD, AR2	
26	4		VK-200-20-4B		BEAD, FERRX CUBE, L1,9,11,6	
27	1		1N4001		DIODE, RECT CR7	
28	1		1N746A		DIODE CR6	
29	1		1N757A		DIODE CR2	
30	4		1N914		DIODE CR1,3,4,8	
31	1		10534B		MIXER, DOUBLE BALANCED, HP, A1	
32	1		2N3960		TRANSISTOR Q1	
33	6		2066-1322		CONNECTOR, AMERICON, J1 - J6	
34	1		3252X-1-103		POTENTIOMETER, BOURNS, R35	
35	2		412-12		RELAY, DPDT, K1,2	

RADIATION INCORPORATED	SIZE	CODE IDENT NO.	JSMB	REV
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA	A	91417	PL 528762	
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U. S. BLUEPRINT PAPER CO., CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G2	DWG SIZE	PART OR IDENTIFYING NO.	MP	NOMENCLATURE OR DESCRIPTION	CODE IDENT
	1		2N2904		TRANSISTOR, Q1	
	1		RCR20G512JS		RES, FXD R15	
	1		RCR07G121JS		RES, FXD R20	
2	1		CK14BX223K		CAPACITOR, FXD C7	
0	1		CK15BR224K		CAPACITOR, FXD C8	
41	2		CM06FD121J03		CAPACITOR, FXD C9,15	
	1		LF4W035		INDUCTOR, FXD JFD, L7	
3	2		LF4W100		INDUCTOR, FXD JFD, L4,2	
1	1		RCR07G911JS		RES, FXD R19	
5	2		RN60C2260F		RES, FXD R6	
4	2		RN60C2740F		RES, FXD R5	
7	1		RN60C4991F		RES, FXD R9	
43	2		RN60C61R9F		RES, FXD R16,4	
2	1		RN60C8867F		RES, FXD R8	
0	1		RN60C8870F		RES, FXD R7	
1	1		Y367 55 MHz		OSCILLATOR, GREENWAY, Y1	
2	1		192P2229R8		CAPACITOR, FXD C6	
3	30 FT		RG-174/U		CABLE, COAX	
54	REF		CM528460-2		CIRCUIT MASTER	
5	REF		417305		SCHEMATIC DIAGRAM	

RADIATION INCORPORATED
DIVISION OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

SIZE	CODE IDENT NO.		REV
A	91417	PL 528762	

SCALE | SHEET

U.S. FLEXIBLE PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G3	DWG SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION	CODE IDENT
1	15		CK06BX104K		CAPACITOR, FXD C1-3,10-12,14,16-22,24	
2	3		CSR13G475KL		CAPACITOR, FXD C23,4,13	
3	1		MC1026P		INTEGRATED CIRCUIT, DUAL CLK DRV, MOTOROLA, Z2	
4	1		MC1034P		INTEGRATED CIRCUIT, D FLIP FLOP, MOTOROLA, Z1	
5	1		RA-2909		INTEGRATED CIRCUIT, OPNL AMP, HARRIS, AR1	
6	1		RCR07G101JS		RES, FXD R10	
7	2		RCR07G102JS		RES, FXD R32	
8	3		RCR07G103JS		RES, FXD R26,22,14,13	
9	2		RCR07G131JS		RES, FXD R31,34	
10	3		RCR07G160JS		RES, FXD R36 - 38	
11	1		RCR07G204JS		RES, FXD R21	
12	1		RCR07G271JS		RES, FXD R30	
13	1		RCR07G331JS		RES, FXD R23	
14	1		RCR07G391JS		RES, FXD R1	
15	1		RCR07G470JS		RES, FXD R2	
16	2		RCR07G621JS		RES, FXD R28,33	
17	2		RCR07G820JS		RES, FXD R27,29	
18	1		RCR20G102JS		RES, FXD R3	
19	1		RN60C1000F		RES, FXD R12	
20	2		RN60C2210F		RES, FXD R6,18	
21	2		RN60C2740F		RES, FXD R5,17	
22	2		RN60C2941F		RES, FXD R11,14	
23						
24	1		U5B7741393		INTEGRATED CIRCUIT, OPNL AMP, FAIRCHILD, AR3	
25	1		U5F7711393		INTEGRATED CIRCUIT, DUAL COMP, FAIRCHILD, AR2	
26	4		VK-200-20-4B		BEAD, FERRX CUBE, L1,9,11,6	
27	1		1N4001		DIODE, RECT CR7	
28	1		1N746A		DIODE CR2	
29	1		1N757A		DIODE CR6	
30	4		1N914		DIODE CR1,3,4,8	
31	1		10534B		MIXER, DOUBLE BALANCED, HP, A1	
32	1		2N3960 - 1		TRANSISTOR Q1	
33	6		2066-1322		CONNECTOR, AMERICON, J1-J6	
34	1		3252X-1-103		POTENTIOMETER, BOURNS, R35	
35	2		412-12		RELAY, DPDT, TELEDYNE, K1,2	

RADIATION INCORPORATED
A SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

SIZE	CODE IDENT NO.		REV
A	91417	PL 528762	

SCALE

SHEET 4

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G3	DWG SIZE	PART OR IDENTIFYING NO.	MP	NOMENCLATURE OR DESCRIPTION	CODE IDENT
36	1		2N2904		TRANSISTOR	Q1
37	1		RCR07G512JS		RES, FXD	R15
38	1		RCR20G121JS		RES, FXD	R20
39	1		CK14BR563K		CAPACITOR, FXD	C7
40	1		CK15BR334K		CAPACITOR, FXD	C8
41	2		LF4W040		INDUCTOR, FXD	JFD, L2, 4
42	1		RCR07G221JS		RES, FXD	R19
43	1		RN60H1272FM		RES, FXD	R9
44	2		RN60C2261F		RES, FXD	R6
45	2		RN60C2741F		RES, FXD	R5
46	2		RN60C51R1F		RES, FXD	R4, 16
47	1		X-80		DELAY LINE	50 OHMS, 118ms ±5%, EL RAD
48	1		X-80		DELAY LINE	50 OHMS, 59ns ±5%, EL RAD
49	1		RN60C2201B		RES, FXD	R7
50	1		RN60D2210FM		RES, FXD	R8
51	1		WEE-WEE-1.5		INDUCTOR, FXD, NYTRONICS, L7	
52	1		Y367 66,25MHz		OSCILLATOR, GREENWAY, Y1	
53	1		192P3929R8		CAPACITOR, FXD	C6
54	2		192P4729R8		CAPACITOR, FXD	C5
55	REF		CM528460-2		CIRCUIT MASTER	
56	REF		417305		SCHEMATIC DIAGRAM	

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

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SIZE	CODE IDENT NO.	3.75 MB	REV
A	91417	PL 528762	
SCALE			SHEET 7

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G4	DWG SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION	CODE IDENT
1	15		CK06BX104K		CAPACITOR, FXD C1-3,10-12,14,16-22,24	
2	3		CSR13G475KL		CAPACITOR, FXD C23,4,13	
3	1		MC1026P		INTEGRATED CIRCUIT, DUAL CLK DRV, MOTOROLA, Z2	
4	1		MC1034P		INTEGRATED CIRCUIT, FLIP FLOP, MOTOROLA, Z1	
5	1		RA-2909		INTEGRATED CIRCUIT, OPNL AMP, HARRIS, AR1	
6	1		RCR07G101JS		RES, FXD R10	
7	2		RCR07G102JS		RES, FXD R32	
8	3		RCR07G103JS		RES, FXD R26,22,14,13	
9	2		RCR07G131JS		RES, FXD R31,34	
10	3		RCR07G160JS		RES, FXD R36 - 38	
11	1		RCR07G204JS		RES, FXD R21	
12	1		RCR07G271JS		RES, FXD R30	
13	1		RCR07G331JS		RES, FXD R23	
14	1		RCR07G391JS		RES, FXD R1	
15	1		RCR07G470JS		RES, FXD R2	
16	2		RCR07G621JS		RES, FXD R28,33	
17	2		RCR07G820JS		RES, FXD R27,29	
18	1		RCR20G102JS		RES, FXD R3	
19	1		RN60C1000F		RES, FXD R12	
20	2		RN60C2210F		RES, FXD R6,18	
21	2		RN60C2740F		RES, FXD R5,17	
22	2		RN60C2941F		RES, FXD R11,14	
23						
24	1		U5B7741393		INTEGRATED CIRCUIT, OPNL AMP, FAIRCHILD, AR3	
25	1		U5F7711393		INTEGRATED CIRCUIT, DUAL COMP, FAIRCHILD, AR2	
26	4		VK-200-20-4B		BEAD, FERRX CUBE L1,9,11,6	
27	1		1N4001		DIODE, RECT CR7	
28	1		1N746A		DIODE CR2	
29	1		1N757A		DIODE CR5	
30	4		1N914		DIODE CR1,3,4,8	
31	1		10534B		MIXER, DOUBLE BALANCED, HP, A1	
32	1		2N3960		TRANSISTOR Q1	
33	6		2066-1322		CONNECTOR, AMERICON, J1-J6	
34	1		3252X-1-103		POETNTIOMETER, BOURNS, R35	
35	2		412-12		RELAY, DPDT, TELEDYNE, K1,2	

RADIATION INCORPORATED
A SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

SIZE	CODE IDENT NO.		REV
A	91417	PL 528762	

SCALE

SHEET

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G4	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION	CODE USED
36	1		2N2904		TRANSISTOR	Q1
37	1		RCR07G512JS		RES, FXD	R15
38	1		RCR20G121JS		RES, FXD	R20
39	2		CK15BR103M		CAPACITOR, FXD	C7
40	1		RCR07G910JS		RES, FXD	R19
41	2		RN60C2261F		RES, FXD	R6
42	2		RN60C2741F		RES, FXD	R5
43	2		RN60C51R1F		RES, FXD	R4
44	1		RN60C5111F		RES, FXD	R9
45	1		RN60C86R6F		RES, FXD	R8
46	1		RN60C8660F		RES, FXD	R7
47	2		WEE-WEE-2.2		INDUCTOR, FXD, NYTRONICS, L2, 4	
48	1		WEE-WEE-3.3		INDUCTOR, FXD, NYTRONICS, L7	
49	1		Y367 68.5 MHz		OSCILLATOR, GREENWAY, Y1	
50	1		192P2739R8		CAPACITOR, FXD	C6
51	2		192P4729R8		CAPACITOR, FXD	C5
52	1		X-73		DELAY LINE	50 OHMS, 270 ns ±5%, EL RAD
53	1		X-80		DELAY LINE	50 OHMS, 135 ns ±5%, EL RAD
54	REF		CM528460-2		CIRCUIT MASTER	
55	REF		417305		SCHEMATIC DIAGRAM	

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS INTERTYPE CORPORATION, MELBOURNE, FLORIDA

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SIZE	CODE IDENT NO.	1.5 MB	REV
A	91417	PL 528762	

SCALE

SHEET

ITEM	QTY PER ASSY LEVEL G5	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION	CODE IDENT
1	15		CK06BX104K		CAPACITOR, FXD C1-3,10-12,14,16-22,24	
2	3		CSR13G475KL		CAPACITOR, FXD C23,4,13	
3	1		MC1026P		INTEGRATED CIRCUIT, DUAL CLK DRV, MOTOROLA, Z2	
4	1		MC1034P		INTEGRATED CIRCUIT, D FLIP FLOP, MOTOROLA, Z1	
5	1		RA-2909		INTEGRATED CIRCUIT, OPNL AMP, HARRIS, AR1	
6	1		RCR07G101JS		RES, FXD R10	
7	1		RCR07G102JS		RES, FXD R32	
8	4		RCR07G103JS		RES, FXD R26,22,24,13	
9	2		RCR07G131JS		RES, FXD R31,34	
10	3		RCR07G160JS		RES, FXD R36 - 38	
11	1		RCR07G204JS		RES, FXD R21	
12	1		RCR07G271JS		RES, FXD R30	
13						
14	1		RCR07G391JS		RES, FXD R1	
15	1		RCR07G470JS		RES, FXD R2	
16	2		RCR07G621JS		RES, FXD R28,33	
17	2		RCR07G820JS		RES, FXD R27,29	
18	1		RCR20G102JS		RES, FXD R3	
19						
20	2		RN60C2210F		RES, FXD R6,18	
21	2		RN60C2740F		RES, FXD R5,17	
22	2		RN60C2941F		RES, FXD R11,14	
23	2		RN60C61R9F		RES, FXD R4,16	
24	1		U5B7741393		INTEGRATED CIRCUIT, OPNL AMP, FAIRCHILD, AR3	
25	1		U5F7711393		INTEGRATED CIRCUIT, DUAL COMP, FAIRCHILD, AR2	
26	4		VK-200-20-4B		BEAD, FERRX CUBE L1,9,11,6	
27	1		1N4001		DIODE, RECT CR7	
28	1		1N757A		DIODE CR6	
29	1		1N746A		DIODE CR2	
30	4		1N914		DIODE CR3,4,1,8	
31	1		10534B		MIXER, DOUBLE BALANCED, HP, A1	
32	1		2N3960		TRANSISTOR Q1	
33	6		2066-1322		CONNECTOR, AMERICON, J1 - J6	
34	1		3252X-1-103		POTENTIOMETER, BOURNS, R35	
35	2		412-12		RELAY, DPDT, TELEDYNE, K1,2	

	SIZE	CODE IDENT NO.		REV
RADIATION INCORPORATED SUBSIDIARY OF HARRIS INTERTYPE CORPORATION, MELBOURNE, FLORIDA	A	91417	IBMB PL 528762	
48	SCALE			SHEET 10

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G5	DWG. SIZE	PART OR IDENTIFYING NO.	MP	NOMENCLATURE OR DESCRIPTION	CODE IDENT
35						
38	2		CM15ED101JN3		CAP, FXD	C9,15
39	1		192P1049R8		CAP, FXD	C5
40	1		192P6839R8		CAP, FXD	C6
41	2		LF4W080		INDUCTOR, FXD	JFD, L3, 5
42	1		LF4W030		INDUCTOR, FXD	JFD, L7
43						
44						
45						
46	1		RN60C6041F		RES, FXD	R9
47	1		Y367 52 MHZ		OSCILLATOR, GREENWAY, Y1	
48	30 FT		RG-174/U		CABLE, COAX	
49	REF		CM528460 - 3		CIRCUIT MASTER	
50	REF		417305		SCHEMATIC DIAGRAM	
51	1		RCR07G512JS		RES, FXD, COMP, R15	
52	1		RN60C1000F		RES, FXD, R12	
53	1		2N2904		TRANSISTOR, Q1	
54	1		RCR20G121JS		RES. FXD, COMP. R20	
55	1		RCR07G183JS		RES, COMP, R23	
56	1		RCR07G112JS		RES, COMP, R19	
57	1		192P4729R8		CAP, FXD, C8	SPRAGUE
58	1		192P2029R8		CAP, FXD, C7	SPRAGUE
59	1		RN60C5360F		RES, FXD, R8	
60	1		RN60C1070F		RES, FXD, R7	

	SIZE	CODE IDENT NO.		REV
RADIATION INCORPORATED SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA	A	91417	PL 528762	
49	SCALE			SHEET 11

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G6	DWG SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION	CODE IDENT
1	15		CK06BX104K		CAPACITOR, FXD C1-3,10-12,14,16-22,24	
2	3		CSR13G475K1		CAPACITOR, FXD C23,4,13	
3	1		MC1026P		INTEGRATED CIRCUIT, DUAL CLK DRV, MOTOROLA, Z2	
4	1		MC1034P		INTEGRATED CIRCUIT, D FLIP FLOP, MOTOROLA, Z1	
5	1		RA-2909		INTEGRATED CIRCUIT, OPNL AMP, HARRIS, AR1	
6	2		RCR07G101JS		RES, FXD R10	
7	1		RCR07G102JS		RES, FXD R32	
8	4		RCR07G103JS		RES, FXD R26,22,14,13	
9	2		RCR07G131JS		RES, FXD R31,34	
10	3		RCR07G160JS		RES, FXD R36 - 38	
11	1		RCR07G204JS		RES, FXD R21	
12	1		RCR07G271JS		RES, FXD R30	
13						
14	1		RCR07G391JS		RES, FXD R1	
15	1		RCR07G470JS		RES, FXD R2	
16	2		RCR07G621JS		RES, FXD R28,33	
17	2		RCR07G820JS		RES, FXD R27,29	
18	1		RCR20G102JS		RES, FXD R3	
19						
20	2		RN60C2210F		RES, FXD R6,18	
21	2		RN60C2740F		RES, FXD R5,17	
22	2		RN60C2941F		RES, FXD R11,14	
23	2		RN60C61R9F		RES, FXD R4,16	
24	1		U5B7741393		INTEGRATED CIRCUIT, OPNL AMP, FAIRCHILD, AR3	
25	1		U5F7711393		INTEGRATED CIRCUIT, DUAL COMP, FAIRCHILD, AR2	
26	4		VK-200-20-4B		BEAD, FERRX CUBE L1,9,11,6	
27	1		1N4001		DIODE, RECT CR7	
28	1		1N4371		DIODE CR6	
29	1		1N757A		DIODE CR2	
30	4		1N914		DIODE CR1,3,4,8	
31	1		10534B		MIXER, DOUBLE BALANCED, HP, A1	
32	1		2N3960		TRANSISTOR Q1	
33	6		2066-1322		CONNECTOR, AMERICON, J1-J6	
34	1		3252X-1-103		POTENTIOMETER, BOURNS, R35	
35	2		412-12		RELAY, DPDT, TELEDYNE, K1,2	

	SIZE	CODE IDENT NO.		REV
RADIATION INCORPORATED SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA	A	91417	27446 PL 528762	
50	SCALE			SHEET 12

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G4	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION	CODE IDENT
32	2		CM15FD101JN3		CAP, FXD C9,15	
40						
41	1		LF4W045		INDUCTOR, FXD	JFD, L7
42	2		LF4W035		INDUCOTR, FXD	JFD, L3,5
43						
44						
45						
46	1		Y367L 43MHz		OSCILLATOR, GREENWAY, Y1	
47	1		192P5639R8		CAP, FXD C5	
48	1		192P1839R8		CAP, FXD C6	
49	30 FT		RG-174/U		CABLE, COAX	
50	REF		CM528460 -3		CIRCUIT MASTER	
51	REF		417305		SCHEMATIC DIAGRAM	
52	1		RCR07G512JS		RES, FXD, COMP, R15	
53	1		RN60C1000F		RES, FXD, R12	
54	1		2N2904		TRANSISTOR, Q1	
55	1		RCR20G121JS		RES, FXD, COMP, R20	
56=	1		RCR07G205JS		RES, FXD, COMP, R23	
57	1		RCR07G183JS		RES, FXD, COMP, R19	
58	1		192P3329R8		CAP, FXD, C8	SPRAGUE
59	1		RN60C7870F		RES, FXD, R8	

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

51

SIZE	CODE IDENT NO.	27M3	REV
A	91417	PL 528762	
SCALE			SHEET 13

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

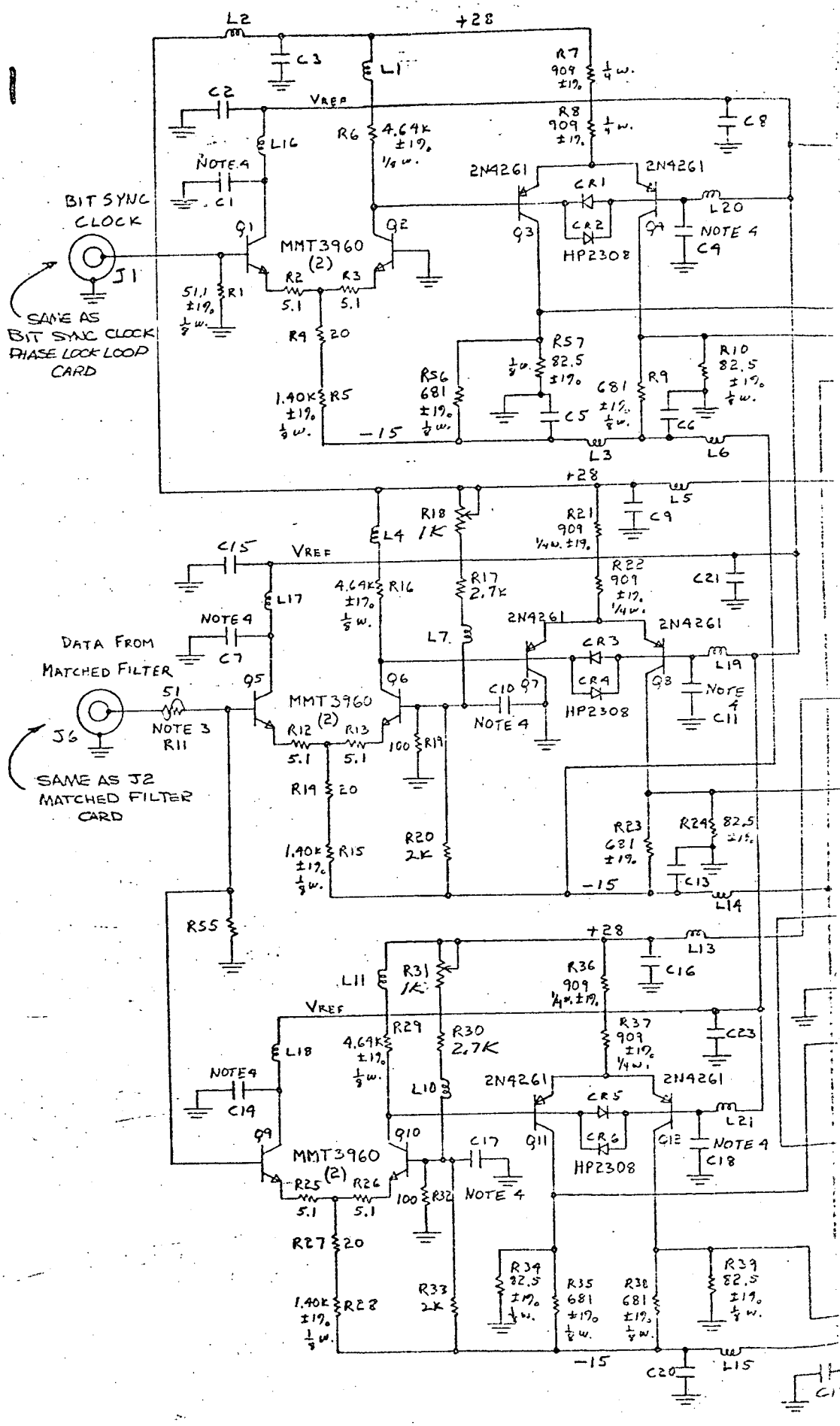
ITEM	QTY PER ASSY LEVEL G7	DWG SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION	CODE IDENT
	15		CK06BX104K		CAPACITOR, FXD C1-3,10-12,14,16-22,24	
	3		CSR13G475KL		CAPACITOR, FXD C4,13,23	
3	1		MC1026P		INTEGRATED CIRCUIT, DUAL CLK DRV, MOTOROLA, Z3	
4	1		MC1034P		INTEGRATED CIRCUIT, D FLIP FLOPMOTOROLA, Z1	
5	1		RA-2909		INTEGRATED CIRCUIT, OPNL AMP, HARRIS, AR1	
6	1		RCR07G101JS		RES, FXD R10	
	2		RCR07G102JS		RES, FXD R32,13	
8	4		RCR07G103JS		RES, FXD R22,24,26,13	
9	2		RCR07G131JS		RES, FXD R31,34	
10	3		RCR07G160JS		RES, FXD R36,37,38	
11	1		RCR07G204JS		RES, FXD R21	
12	1		RCR07G271JS		RES, FXD R30	
13						
14	1		RCR07G391JS		RES, FXD R1	
15	1		RCR07G470JS		RES, FXD R2	
16	2		RCR07G621JS		RES, FXD R28,33	
17	2		RCR07G820JS		RES, FXD R27,29	
18	1		RCR20G102JS		RES, FXD R3	
19	1		RN60C1000F		RES, FXD R12	
20	2		RN60C2210F		RES, FXD R6,18	
21	2		RN60C2740F		RES, FXD R5,17	
22	2		RN60C2941F		RES, FXD R11,14	
23	2		RN60C6189F		RES, FXD R4,16	
24	1		U5B7741393		INTEGRATED CIRCUIT, OPNL AMP, FAIRCHILD, AR3	
25	1		U5F7711393		INTEGRATED CIRCUIT, DUAL COMP, FAIRCHILD, AR2	
26	4		VK-200-20-4B		BEAD, FERRX CUBE L1,6,9,11	
27	1		1N4001		DIODE, RECT CR7	
28	1		1N746A		DIODE CR2	
29	1		1N757A		DIODE CR6	
30	4		1N914		DIODE CR1,3,4,8	
31	1		10534B		MIXER, DOUBLE BALANCED, HP, A1	
	1		2N3960		TRANSISTOR Q1	
33	6		2066-1322		CONNECTOR, AMERICON, J1 - J6	
	1		3252X-1-103		POTENTIOMETER, BOURNS, R35	
35	2		412-12		RELAY, DPDT, TELEDYNE, K1,2	

RADIATION INCORPORATED	SIZE	CODE IDENT NO.	13534B	REV
A SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA	A	91417	PL 528762	

ITEM	QTY PER ASSY LEVEL G7	DWG SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION	CODE IDENT
36	1		2N2904		TRANSISTOR	Q1
37	1		RCR07G512JS		RES, FXD	R15
38	1		RCR20G121JS		RES, FXD	R20
39	2		192P15222		CAPACITOR, FXD	C5,6
40	2		192P1549R8		CAPACITOR, FXD	C7,8
41	1		RN60C8060F		RES, FXD	R19
42	1		RN60C4531F		RES, FXD	R9
43	1		RN60C7870F		RES, FXD	R7
44	1		RN60C78R7F		RES, FXD	R8
45	2		192P12292		CAPACITOR, FXD	C9,15
46	2		LF4W012		INDUCTOR	L2,4, JFD
47	1		LF4W040		INDUCTOR	L7, JFD
48	1		Y-367 56.5MHz		OSCILLATOR, GREENWAY, Y1	
49						
50						
51						
52	REF		CM528460-3		CIRCUIT MASTER	
53	REF		417305		SCHEMATIC DIAGRAM	
54						

RADIATION INCORPORATED	SIZE	CODE IDENT NO.	15.5 MS	REV
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA	A	91417	PL 528762	
53	SCALE			SHEET 15

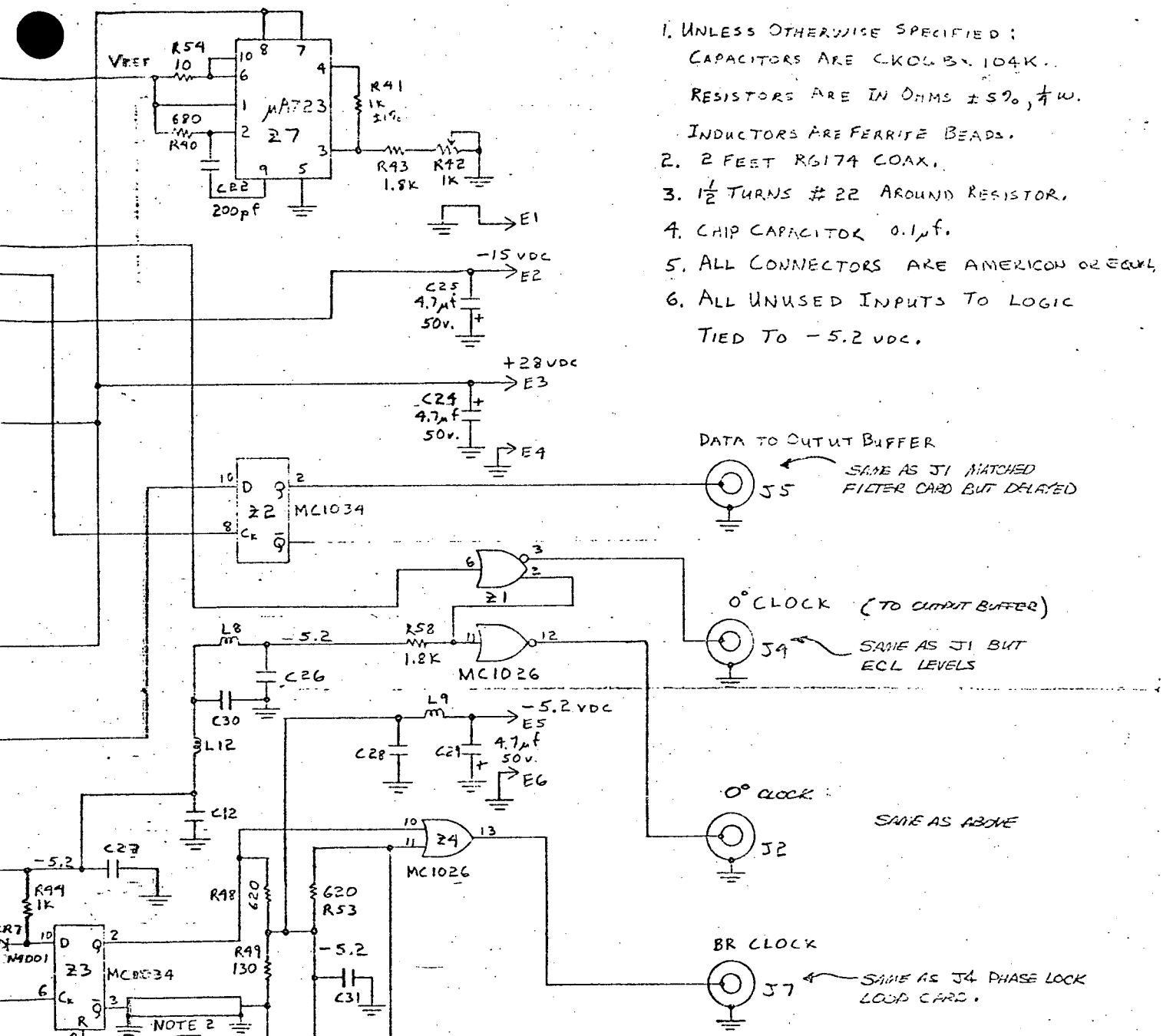
FOLDOUT FRAME



FOLDOUT FRAME 2

NOTES:

1. UNLESS OTHERWISE SPECIFIED:
   CAPACITORS ARE CKO5BX104K.
   RESISTORS ARE IN OHMS ±5%, ¼W.
   INDUCTORS ARE FERRITE BEADS.
2. 2 FEET RG174 COAX.
3. 1½ TURNS #22 AROUND RESISTOR.
4. CHIP CAPACITOR 0.1μf.
5. ALL CONNECTORS ARE AMERICON OR EQUAL.
6. ALL UNUSED INPUTS TO LOGIC TIED TO −5.2 VDC.



ENGRG DEV

REF ASSY. − 528764

REF ASS'Y # 528764

NORRIS	RADIATION		
W. NORRIS 4-21-71	TITLE: SCHEMATIC DECISION UNIT CARD (BIT SYNC UNIT)		
Ted Roots 10/7/21	SIZE: C	CODE IDENT NO: 91417	417307
55	SCALE		1 OF 1

APPLICATION		
DASH NO.	NEXT ASSY	USED ON
G1	612795	6803-2002

REVISIONS					
LTR	DESCRIPTION			DATE	APPROVED
	CHG BY	CHK BY	ECO NO.		

ENGRG DEV

REVISION INDEX																																	
	SHEET	1	2	3																													
	REV																																

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE APPLIED FINISH TOLERANCES

2 PLACE ± 3 PLACE ± ANGLES ±

CONTRACT NO.

DR BY JRay 5/17/71 CHK BY

ENGINEER

PROJECT ENGINEER

APPROVAL

APPROVAL

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RADIATION INCORPORATED

SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

TITLE

PARTS LIST,
DECISION UNIT

SIZE	CODE IDENT NO.		REV
A	91417	PL528764	
SCALE NONE		SHEET 1 OF 3	

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL 1	2	3	4	5	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION
1	8						ATC-200-B-104-Z-M-50		CAPACITOR, C17,14,18,7,10,11,4,1 AMER TEC-I CERA.
	19						CK06BX104K		CAP, FXD, CER, C3,2,8,5,6,9,15,21,13,16,23,20,19,27 31,12,30,26,28
3	1						CM15FD201J03		CAP, FXD. MICA, C22
4	3						CSR13G475M		CAP, FXD, TANT, C25,24,29
5	19						K5-0001-00-3B		BEAD FERRX CUBE, L1 - L18,L20
6	3						MC1026P		IC DL CLCK DRVR, MOTOROLA, Z4,1,5
	3						MC1034P		IC D FLIP FLOP, Z2,3,6
	6						MMT3960A		TRANSISTOR, Q9,10,5,6,1,2
9	1						RCR07G100JS		RES, FXD, COMP, R54
10	2						RCR07G101JS		RES, FXD, COMP, R32,19
11	2						RCR07G102JS		RES, FXD, COMP, R44,45
12	2						RCR07G131JS		RES, FXD, COMP, R49,51
13	2						RCR07G182JS		RES, FXD, COMP, R43,58
14	3						RCR07G200JS		RES, FXD, COMP, R4,14,27
15	2						RCR07G202JS		RES, FXD. COMP, R20,33
16	2						RCR07G272JS		RES, FXD, COMP, R30,17
17	4						RCR07G621JS		RES, FXD, COMP, R48,53,46,47
18	1						RCR07G681JS		RES, FXD, COMP, R40
19	2						RCR07G820JS		RES, FXD, COMP, R50,52
20	1						RCR20G510JS		RES, FXD, COMP, R11
21	6						RC07GF5R1J		RES, FXD, COMP, R25,26,12,13,2,3,
22	2						RG174/U		CABLE COAX,
23	1						RN60C1001F		RES, FXD, FILM, R41
24	3						RN60C1401F		RES, FXD, FILM, R15,5,28
25	3						RN60C4641F		RES, FXD, FILM, R29,16,6
26	2						RN60C51R1F		RES, FXD, FILM, R1, R55A
27	5						RN60C6810F		RES, FXD, FILM, R35,38,23,56,9
28	5						RN60C82R5F		RES, FXD, FILM, R34,39,24,57,10
29	6						RN65C9090F		RES, FXD, FILM, R21,22,37,36,8,7
30	1						U5R7723393		IC REG UA723C, FAIRCHILD, Z7
31	2						VK-200-20-4B		BEAD FERRX CUBE, L19,21
32	2						1N4001		DIODE, CR7,8
33	6						2N4261		TRANSISTOR, PNP, Q11,12,7,8,3,4
34	6						2066-1322		CONNECTOR, AMERICON, J1,2,3,4,5,6

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

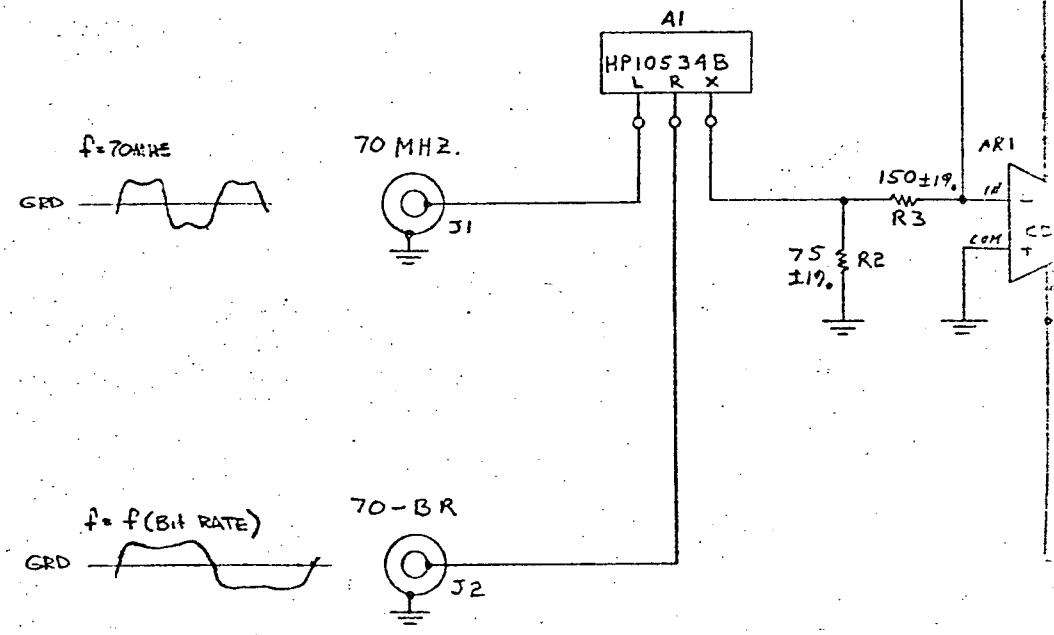
SIZE	CODE IDENT NO.		REV
A	91417	PL528764	
SCALE			SHEET 2

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL GI	2	3	4	5	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION
	3						3252X-1-102		POTENTIOMETER, BOURNS, R31,18,42
	3						5082-2308		DIODE MTCHD PR, HB, CR5,6,3,4,1,2
38	REF						CM528472-1		CIRCUIT MASTER,
39	REF						417307		SCHEMATIC DIAG.
40	1						RN60C100F		RES, FXD, FILM, R55B

	SIZE	CODE IDENT NO.		REV
RADIATION INCORPORATED SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA	A	91417	PL528764 58	
	SCALE			SHEET 3

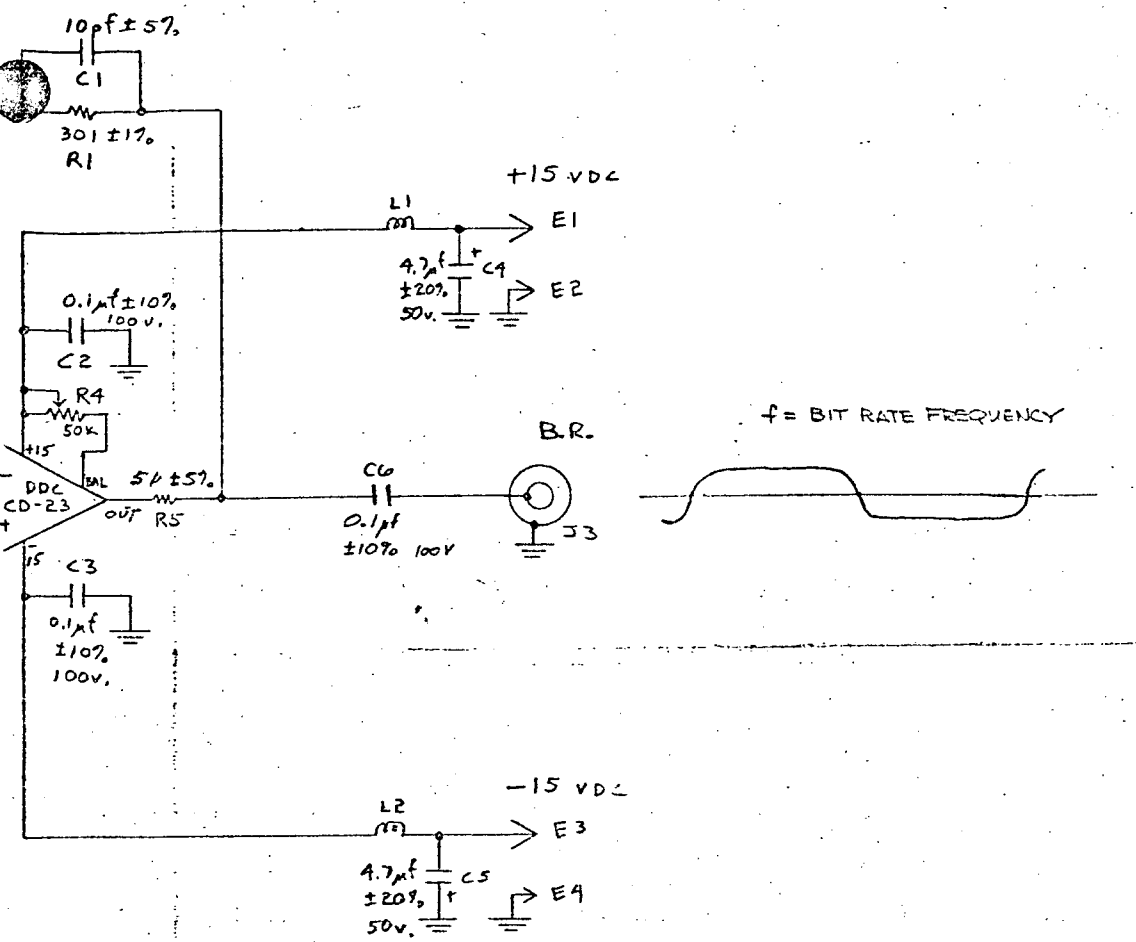
FOLDOUT FRAME 1



NOTES:

1. WAVEFORMS SHOWN ARE TYPICAL

FOLDOUT FRAME 2



ENGRG DEV

REF ASSY # 528766

REF ASSY - 528766

Norris W. Norris 4-21-71 J.L. Proctor 10/2/71	RADIATION INCORPORATED SCHEMATIC MIXER CARD (BIT SYNC UNIT)
	C 91417 417300
	1 OF 1

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REF 4112 MF 10-14-71

APPLICATION		
DASH NO.	NEXT ASSY	USED ON
G1	612795	6803-2002
G2	612795	6754

REVISIONS					
LTR	DESCRIPTION			DATE	APPROVED
	CHG BY	CHK BY	ECO NO.		

ENGRG DEV

REVISION INDEX	SHEET	1	2
	REV		

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE APPLIED FINISH
TOLERANCES
2 PLACE ± 3 PLACE ± ANGLES ±

CONTRACT NO.

DR BY J. Ray 5/17/7[illegible] CHK BY

ENGINEER

PROJECT ENGINEER [illegible signature] 11/2/71

APPROVAL

APPROVAL

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

TITLE
PARTS LIST,
MIXER CARD

SIZE	CODE IDENT NO.		REV
A	91417	PL528766	
SCALE NONE		SHEET 1 OF 2	

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U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G1	2	3	4	5	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION
1									
2	1						CD-23		IC OP AMP, DDC
3	3						CK06BX104K		CAP, FXD, CER, C3,2,6
4	1						CM15C100J03		CAP, FXD, MICA, C1
5	2						CSR13G475KL		CAP, FXD, TANT, C5,4
6	1						RN60C1500F		RES, FXD, FILM, R3
7	1						RN60C3010F		RES, FXD, FILM, R1
8	1						RN60C75R0F		RES, FXD, FILM, R2
9	2						VK-200-20-4B		BEAD FERRX CUBE, L1,2
10	1						105343		DBL BAL MIXER, HP, A1
11	3						2066-1322		CONNECTOR, AMERICON, J1,2,3
12	1						3252X-1-503		POT, BOURNS, R4
13	1						RCR07G510JS		RES, FXD, COMP, R5
14	REF						CM528765-1		CIRCUIT MASTER
15	REF						417308		SCHEMATIC DIAG.

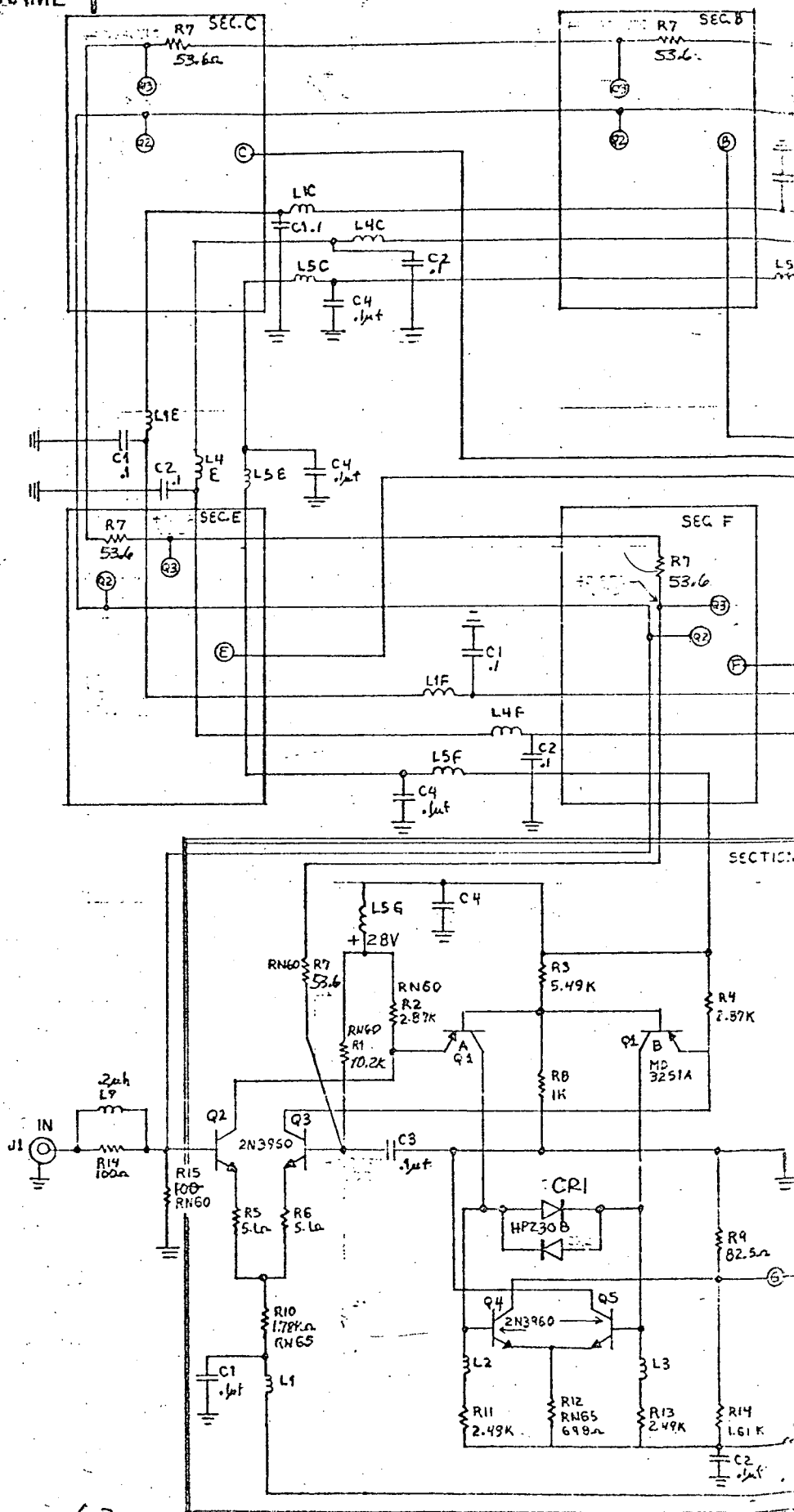
RADIATION INCORPORATED
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

SIZE	CODE IDENT NO.		REV
A	91417	PL528766	

62

SCALE		SHEET 2

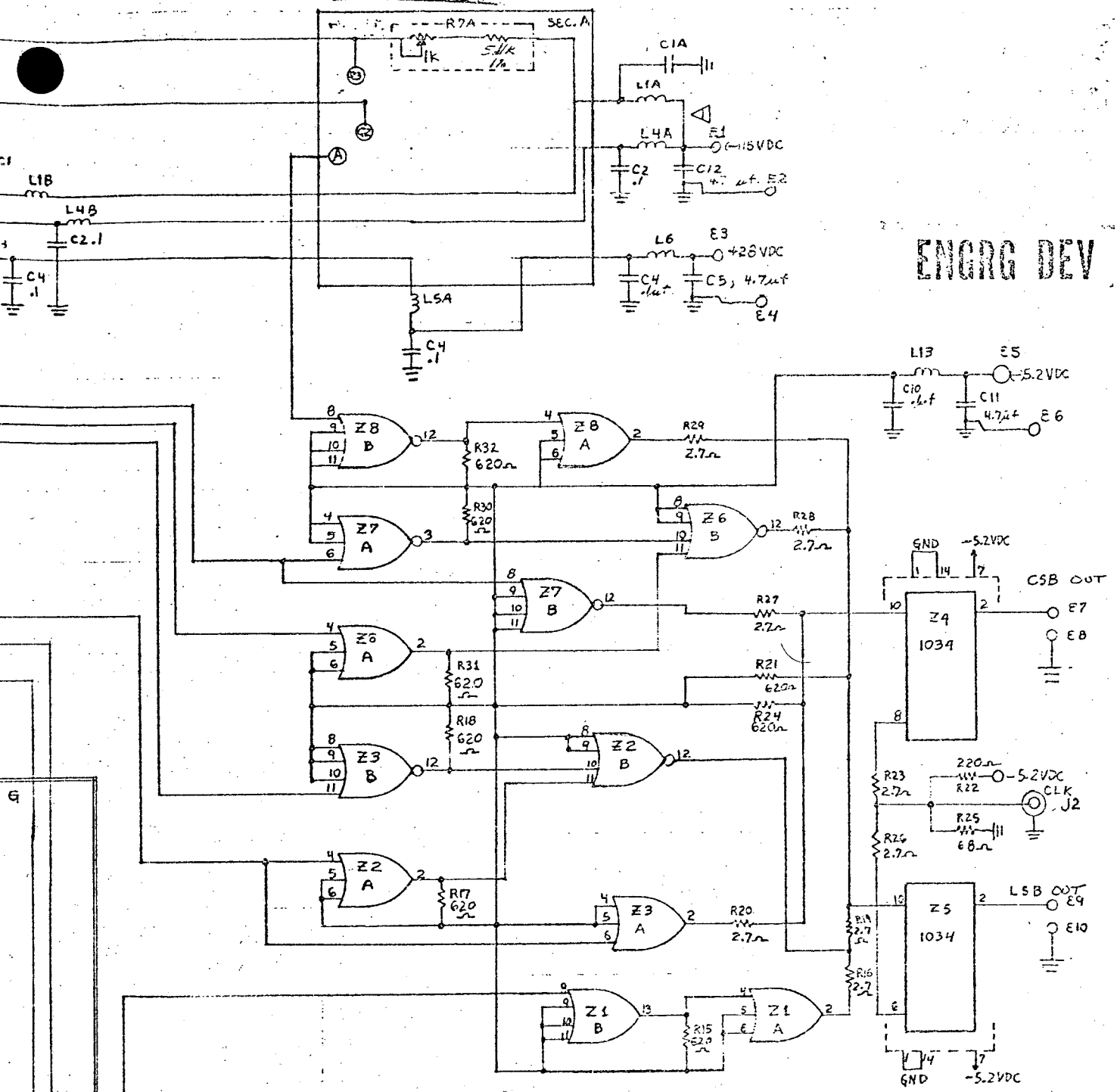
FOLDOUT FRAME 1

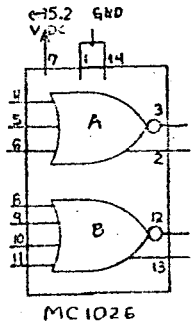


NOTES:
1. Ferrite beads, See PL 612920 for Ref. desig. and part numbers.
2. REF ASSY 612920

FOLDOUT FRAME 2

ENGRG DEV





MC1026
Z1,2,3,6,7,8
POS. Logic

REF ASSY. - 612920

CONTRACT NO.	RADIATION INCORPORATED
DRAWN	W.T. Wallock 9/17/71
ENGINEER	J.L. Proctor 10/1/71
TITLE	SCHEMATIC MAGNITUDE DETECTOR (BIT SYNC UNIT)
SIZE	C
CODE IDENT NO.	91417
DRAWING NO.	4.17 309
SCALE	1

1677-1112 MF 10-19-71

APPLICATION			REVISIONS					
DASH NO.	NEXT ASSY	USED ON	LTR	DESCRIPTION			DATE	APPROVED
				CHG BY	CHK BY	ECO NO.		
G1	612795	6803-2002						

ENGRG RFV

REVISION INDEX																																
	SHEET	1	2																													
	REV																															

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE APPLIED FINISH TOLERANCES
2 PLACE ± 3 PLACE ± ANGLES ±

CONTRACT NO.

DR BY B. Ray 5/28/71 CHK BY

ENGINEER

PROJECT ENGINEER

APPROVAL

APPROVAL

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

TITLE
PARTS LIST -
MAGNITUDE DETECTOR ASSY

SIZE	CODE IDENT NO.		REV
A	91417	PL 612920	

SCALE NONE SHEET 1 OF 2

65

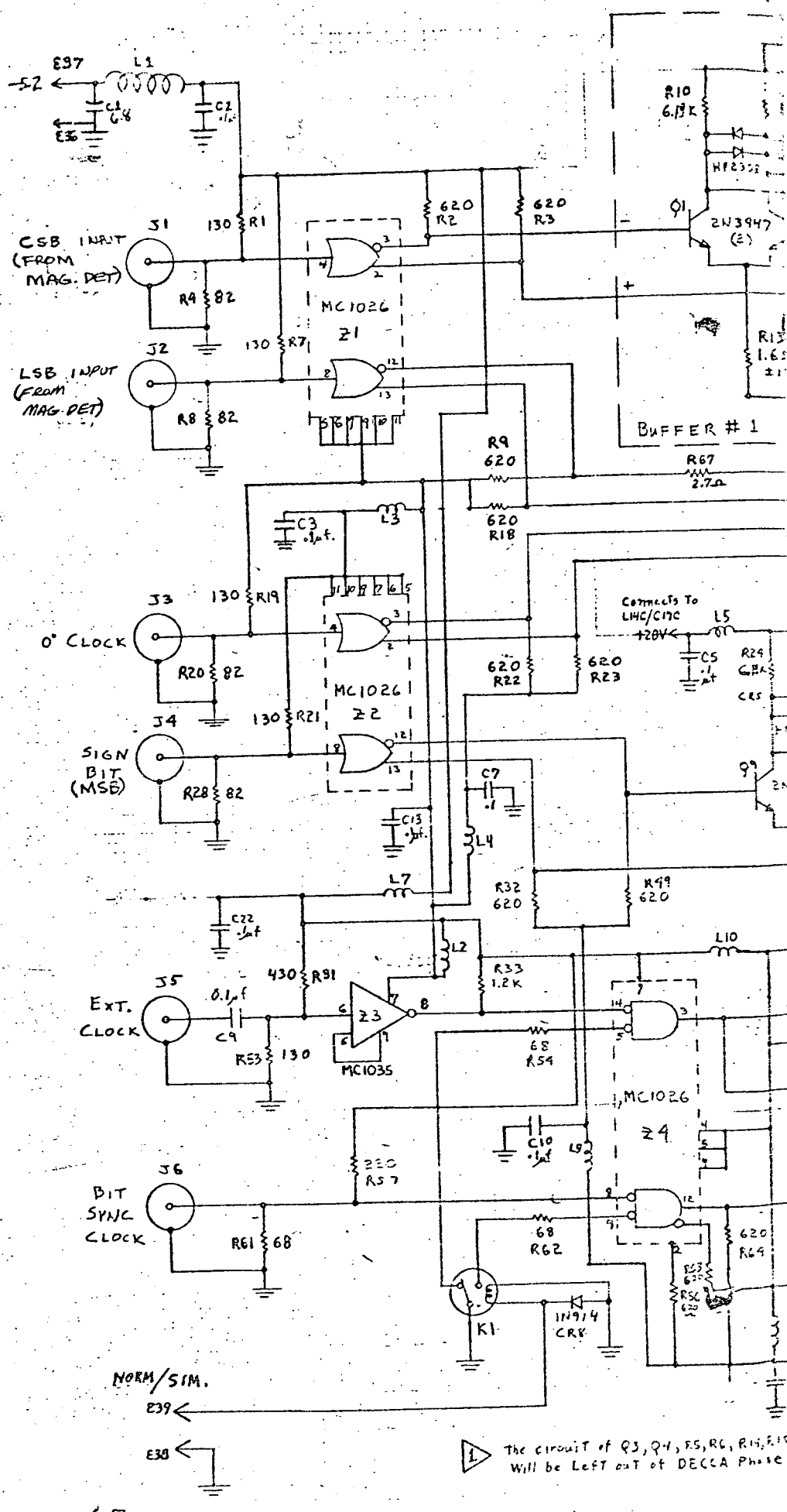
U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL 1	2	3	4	5	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION
1	12						RC07GF5R1F		RES, FXD, R5, R6, X 6
2	8						RC07GF2R7J		RES, FXD, R16, R19, R20, R23, R26, R27, R28, R29
3	1						RCR07G680JS		RES, FXD, R25
4	1						RCR07G221JS		RES, FXD, R22
5	8						RCR07G621JS		RES, FXD, R15, R17, R18, R21, R24, R30, R31, R32
6	12						RN60C2871F		RES, FXD, R2, R4 X 6
7	6						RN60C1001F		RES, FXD, R8 X 6
8	6						RN60C82R5J		RES, FXD, R9 X 6
9	12						RN60C2491F		RES, FXD, R11, R13 X 6
10	6						RN60C1621F		RES, FXD, R14 X 6
11	6						RN65C6980F		RES, FXD, R12 X 6
12	6						RN65C1781F		RES, FXD, R10 X 6
13									
14	23						CK06BX104K		CAP, FXD, C1 X 6, C2 X 6, C4 X 6, C6, C7, C8, C9, C10
15	6						ATC-200-B-104-Z-P-50		CAP, 0.1 UF, C3 X 6 AMER TECH CERAMICS
16	3						CS13BS475K		CAP, FXD, C5, C11, C12
17	19						VK-200-20-4B		BEAD, L1A, L4ABCEFG, L5ABCEFG, L6, L9, 10, 11, 12, 13 FERROXCUBE
18	18						K5-0001-00-3B		BEAD, L1BCEFG, L3ABCEFG, L2ABCEFG, L8 FERROXCUBE
19	2						2066-1322		CONNECTOR, J1, J2, AMERICON
20	6						5082-2308		DIODE, MTCHD PR, CR1, CR2 HP
21	24						2N3960		TRANSISTORQ2, Q3, Q4, Q5 X 6
22	6						MD3251A		TRANSISTOR, Q1 X 6
23	6						MC1026P		INTEGRATED CIRCUIT, DUAL CLK DR, Z1, 2, 3, 6, 7, 8 Motor
24	2						MC1034P		INTEGRATED CIRCUIT, D FLIP-FLOP, Z4, 5 MOTOROLA
25	6						RN60C5491F		RES, FXD, R3 X 6
26	1						RN60C1001F		RES, FXD, R7A
27	1						3252W-1-501		RES, VAR, R7A-
28	REF						CM612919-1		CIRCUIT MASTER
29	REF						417309		SCHEMATIC DIAGRAM
30	6						RN60D53R6F		RES, FXD, R7B, C, D, E, F, G
31	1						RN60C1022F		RES, FXD, R1
32	1						RNR60C9000FM		RES, FXD, FROM R14 to GND
33	1						LF4W200		BEAD, L7 .2UH, JFD

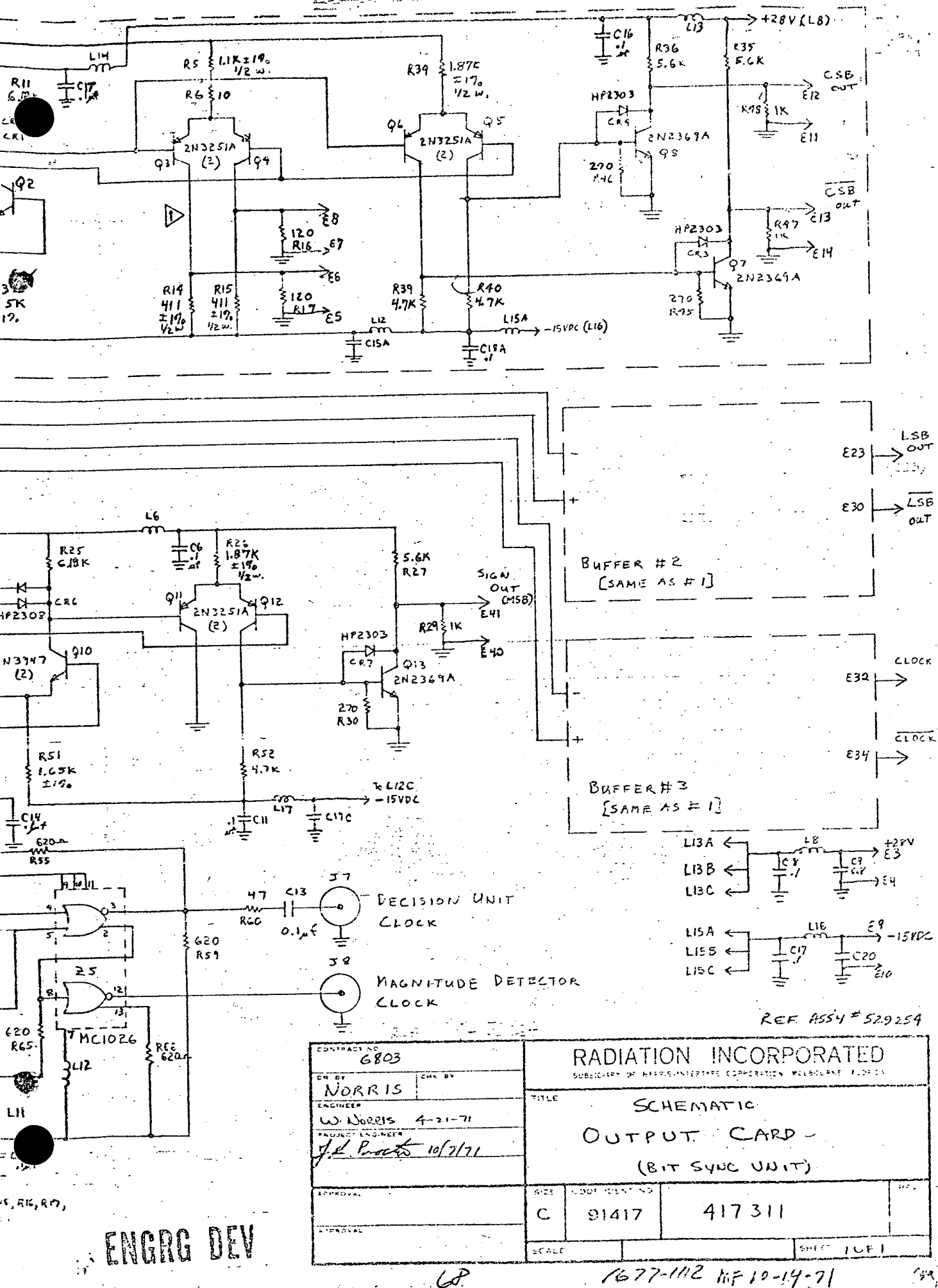
RADIATION INCORPORATED
SUBSIDIARY OF HARRIS INTERTYPE CORPORATION, MELBOURNE, FLORIDA

SIZE	CODE IDENT NO.		REV
A	91417	PL 612920	
SCALE	66	SHEET	

FOLDOUT FRAME



FOLDOUT FRAME 2



CONTRACT NO	6803
DR BY	NORRIS
CHK BY	
ENGINEER	W. Norris 4-21-71
PROJECT ENGINEER	J. L. Proctor 10/7/71
APPROVAL	
APPROVAL	

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION MELBOURNE FLORIDA

TITLE
SCHEMATIC
OUTPUT CARD -
(BIT SYNC UNIT)

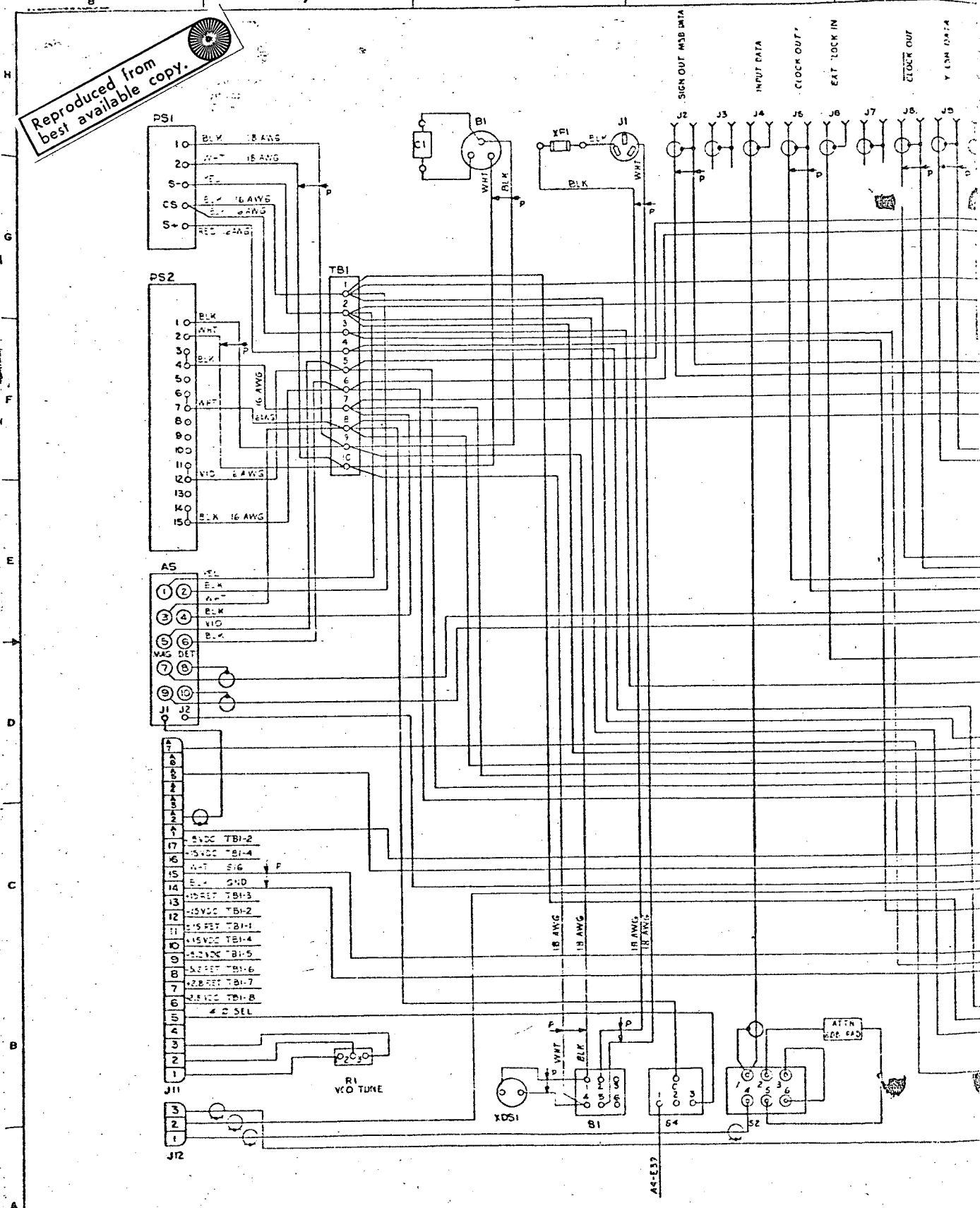
SIZE	CODE IDENT NO	DWG NO	REV
C	91417	417311	

SCALE | SHEET 1 OF 1

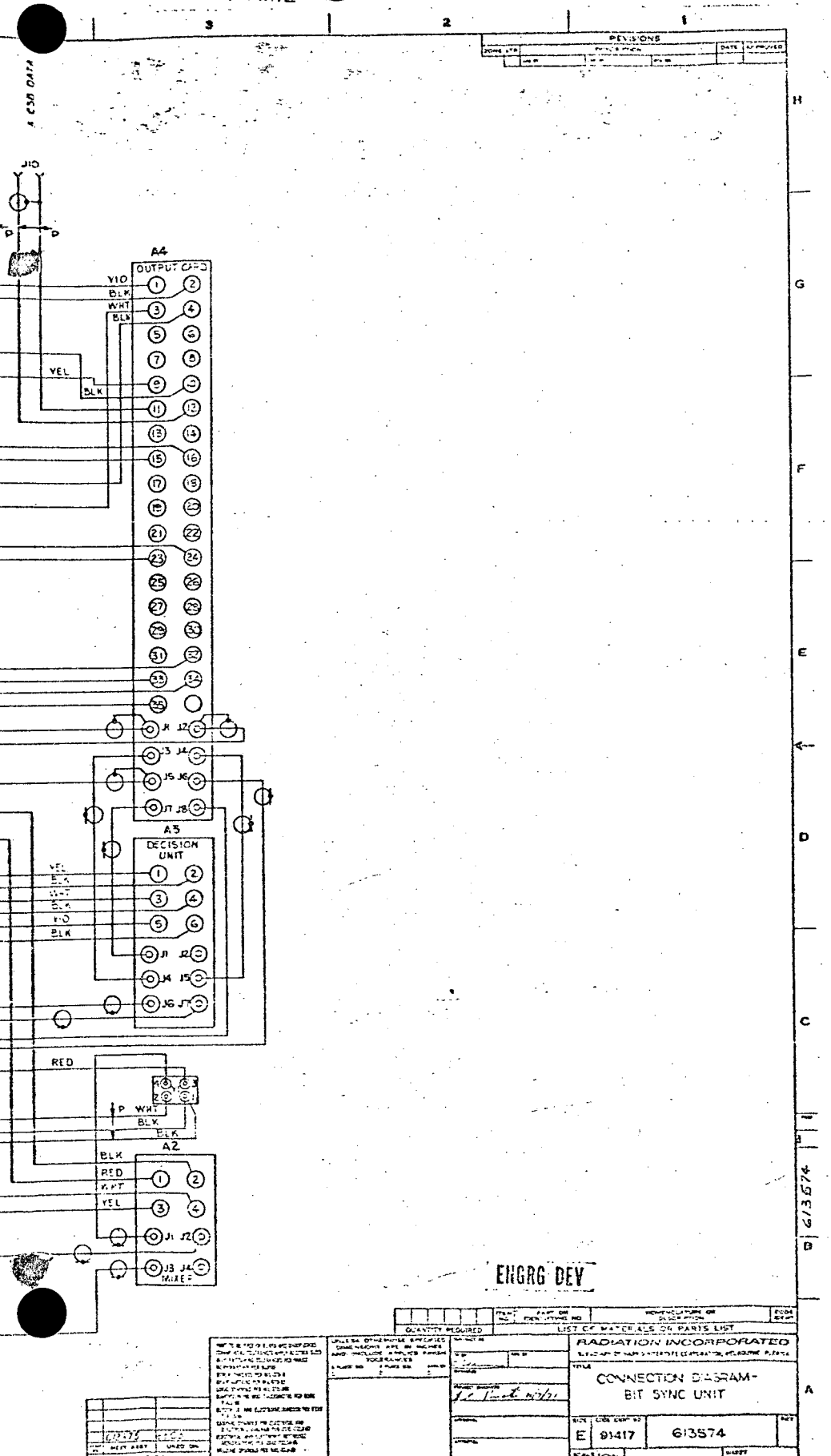
ENGRG DEV

GP 1677-1112 MF 10-14-71

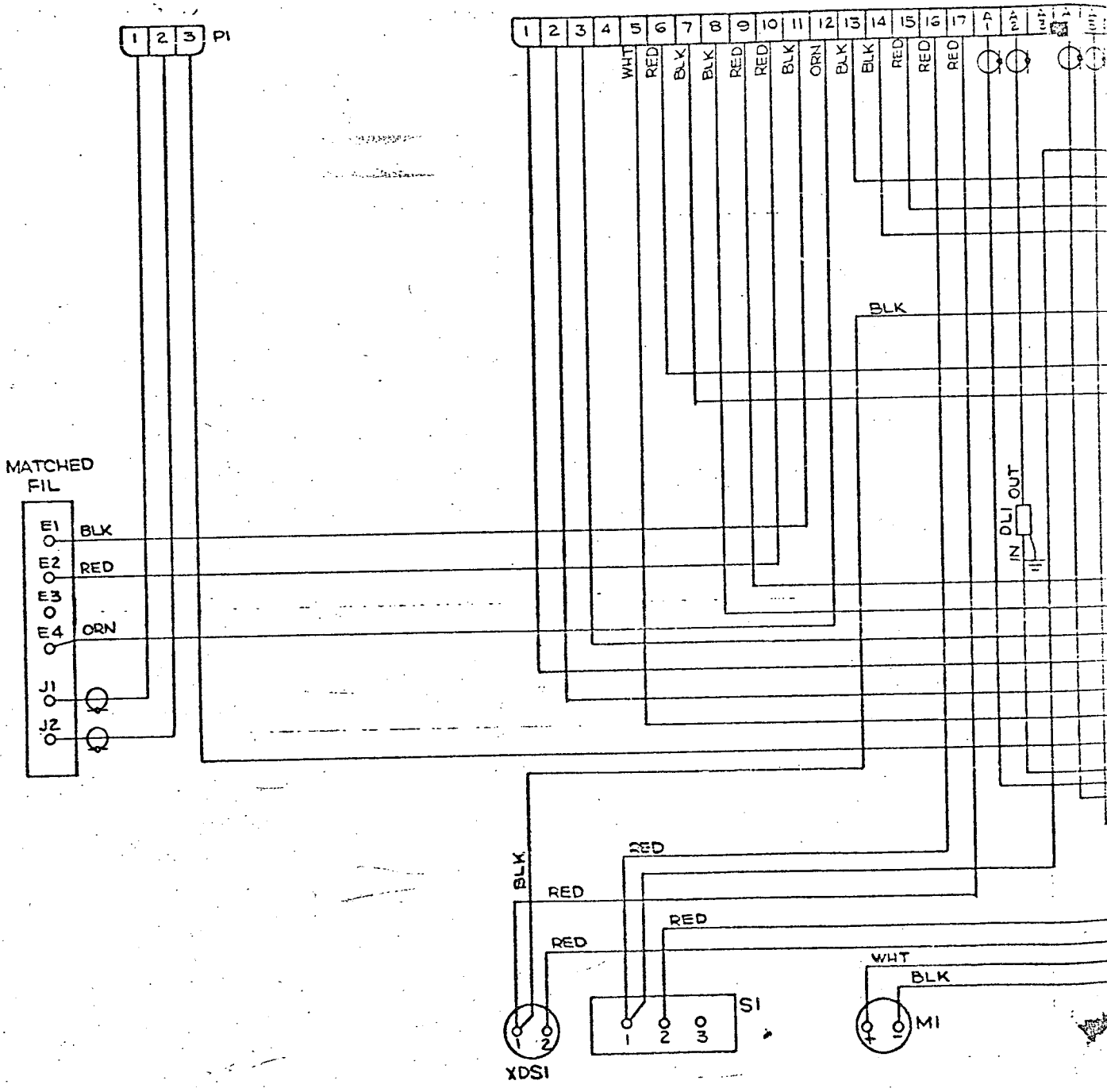
FOLDOUT FRAME



FOLDOUT FRAME 2



FOLDOUT FRAME



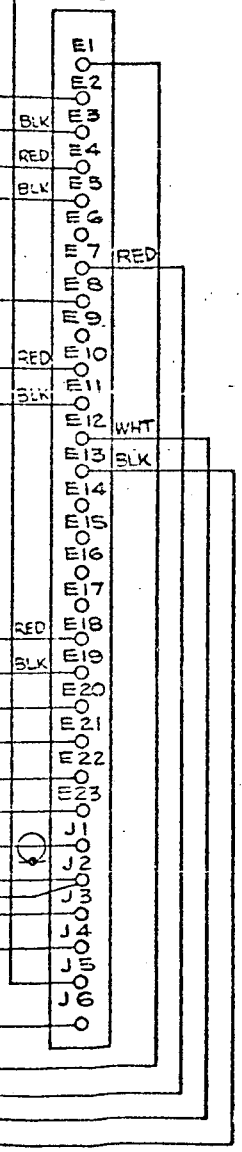
4	3	2	1

REVISIONS					
ZONE	LTR	DESCRIPTION		DATE	APPROVED
		CHG BY	ECR BY / ECO NO		

NOTES:
1. UNLESS OTHERWISE SPECIFIED WIRE IS NO. 24 AWG

FOLDOUT FRAME 2

PHASE LOCK LOOP



ENGRG DEV

ITEM NO.	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	CODE IDENT
QUANTITY REQUIRED	LIST OF MATERIALS OR PARTS LIST		

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE APPLIED FINISH TOLERANCES

DR BY C.SEAMON

CHK BY

ENGINEER

PROJECT ENGINEER

APPROVAL

APPROVAL

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

TITLE
CONNECTION DIAGRAM
MODULE ASSY (PLUG-IN) A1

SIZE	CODE IDENT NO.		REV
D	91417	531758	

SCALE NONE | SHEET

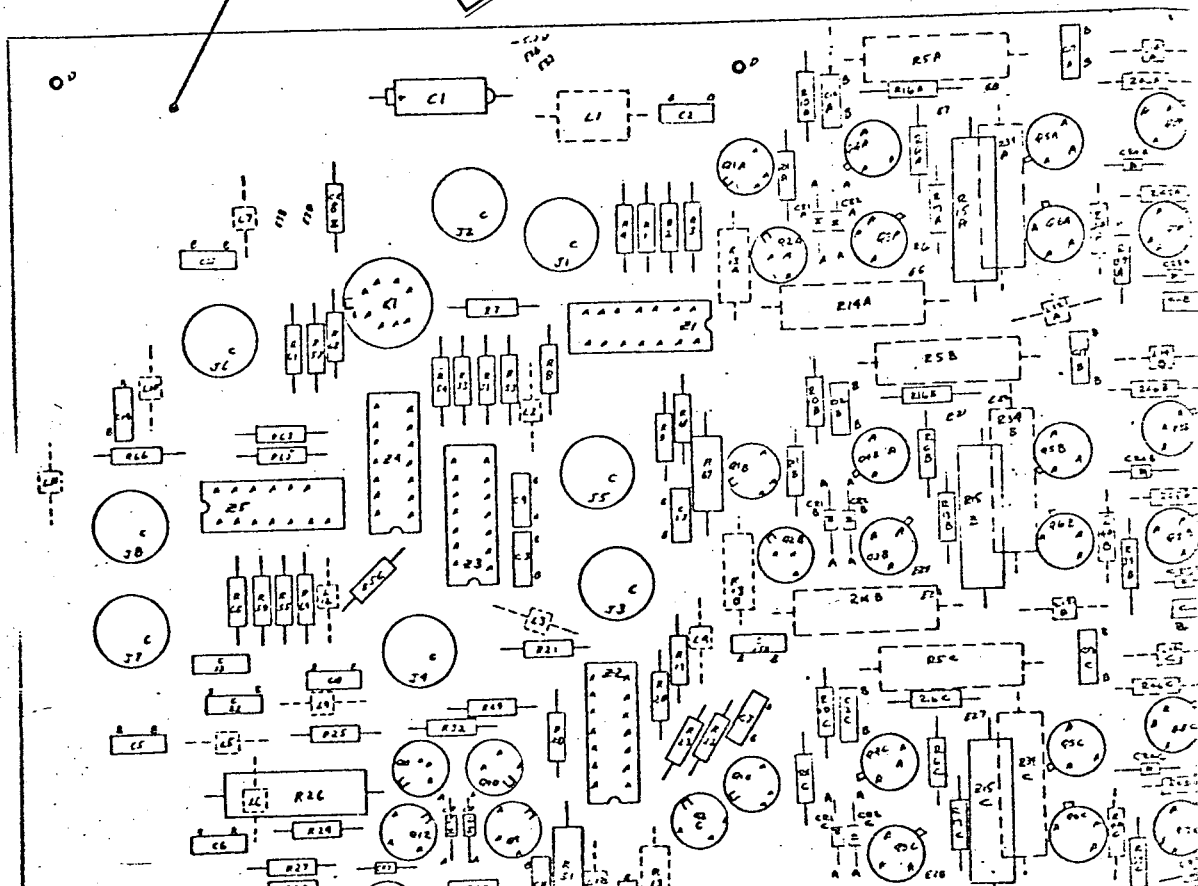
531758

4	3	2	1

G2 of 12-17-71 1

SYM	HOLE DIA
A	.031
B	.040
C	.060
D	.128
ALL OTHERS	.035

FOLDOUT FRAME



CARD SIZE 8.1 x 5

NOTES:

DASH LINE INDICATES INSTALL FS.

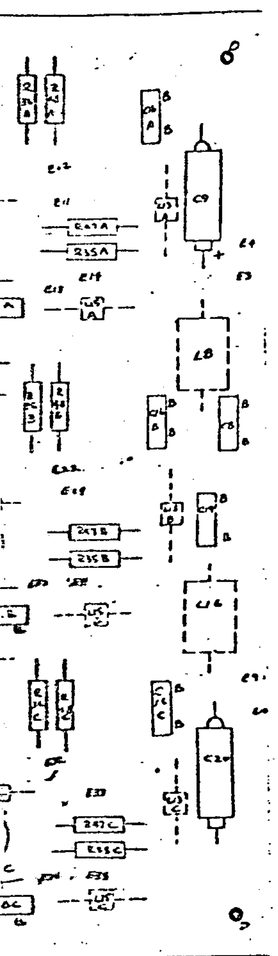
MARK 91417ASSY529254G1 PER MIL-STD-130.

3 MATL: COPPER CLAD LAMINATED PLASTIC SHEET FL-GF-062C1/1 B III B PER MIL-P-13949.

FOLDOUT FRAME 2

REVISIONS

ZONE	LTR	DESCRIPTION	DATE	APPROVED



ENGRG DEV

SEE SEPARATE PARTS LIST

ITEM NO.	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	CODE IDENT

QUANTITY REQUIRED

LIST OF MATERIALS OR PARTS LIST

PART TO BE FREE OF BURRS AND SHARP EDGES
COMMERCIAL TOLERANCES APPLY TO STOCK SIZES
MANUFACTURING TOLERANCES PER 500002
WORKMANSHIP PER 500050
SCREW THREADS PER MIL-STD-9
ABBREVIATIONS PER MIL-STD-12
LOGIC SYMBOLS PER MIL-STD 806
DIMENSIONING AND TOLERANCING PER USAS Y14.5-66
ELECTRICAL AND ELECTRONIC DIAGRAM PER USAS Y14.15-66
GRAPHIC SYMBOLS FOR ELECTRICAL AND ELECTRONIC DIAGRAMS PER USAS Y32.2-67
ELECTRICAL AND ELECTRONIC REFERENCE DESIGNATIONS PER USAS Y32.16-65
WELDING SYMBOLS PER AWS A2.0-58

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE APPLIED FINISH
TOLERANCES
2 PLACE DIM. ± 3 PLACE DIM. ± ANGLES ±

CONTRACT NO.
DR BY | CHK BY
ENGINEER
PROJECT ENGINEER 11/1/71
APPROVAL
APPROVAL

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

TITLE
OUTPUT CARD ASSY

SIZE	CODE IDENT NO.		REV
D	91417	529254	

SCALE 1/1 SHEET

G1	612795	5503-003
DASH NO.	NEXT ASSY	USED ON

APPLICATION

74

GF 10-14-71 1

SECTION 5.0

PARTS LISTS

SECTION 5.0

PARTS LISTS

5.0 PARTS LISTS

Drawing Number	Title
PL612795G2	Bit Sync, General
PL528761	Matched Filter
PL528535	Module Assembly
PL528762	Phase Lock Loop
PL528254	Output Card
PL528764	Decision Unit
PL528766	Mixer
PL612920	Magnitude Detector

APPLICATION			REVISIONS					
DASH NO.	NEXT ASSY	USED ON	LTR	DESCRIPTION			DATE	APPROVED
G1	124266	6754		CHG BY	CHK BY	ECO NO.		
		6803-2002						

ENGRG DEV

REVISION INDEX	SHEET	1	2	3	4	5	6	7	8	9
	REV									

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE APPLIED FINISH TOLERANCES
2 PLACE ± 3 PLACE ± ANGLES ±

CONTRACT NO.

DR BY B. Ray 5/26/71 CHK BY

ENGINEER

PROJECT ENGINEER 10/1/71

APPROVAL

APPROVAL JP

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

TITLE
BIT SYNCHRONIZER,
SIGNAL CONDITIONER

SIZE	CODE IDENT NO.		REV
A	91417	PL 612795	

SCALE NONE SHEET 1 OF 9

NOTES:

1. VENDOR ITEM - SEE SOURCE CONTROL OR SPECIFICATION CONTROL DRAWING.

2. FOUR MEASURED FREQUENCIES OF MODULE ASSY A1 ARE SUPPLIED WITH 612795G1 ASSY.

528535G1 - 25 MB/SEC

528535G2 - 15 MB/SEC

528535G3 - 3.75 MB/SEC

528535G4 - 1.5 MB/SEC

THE FOLLOWING MEASURED FREQUENCIES OF MODULE ASSY A1 MAY BE SUPPLIED WITH 612795G2 ASSY.

528535G5 - 18 MB/SEC

528535G6 - 27 MB/SEC
528535G7 - 13.5 MB/SEC

3.

CODE IDENT NO.	VENDOR
56289	SPRAGUE ELEC
03797	ELDEMA CORP.
83330	H. H. SMITH CO.
39428	MC MASTER CARR CO.
75042	IRC
71590	CENTRALAB
49556	RAYTHEON
23042	TEXSCAN
16681	GREENWAY IND.
09182	HEWLETT-PACKARD
80103	LAMBDA
82877	ROTRON
80009	TEKTRONIX

CODE IDENT NO.	VENDOR
74868	AMPHENOL
80294	BOURNS TRIMPOT
26805	AMERICON
70903	BELDEN

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G1	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION	CODE IDENT
1	1		612794G1		CHASSIS, MODIFICATION	
2	1		2		MODULE ASSY, A1	
3	1		528530G1		BRACKET, POWER SUPPLY	
4	1		528533-1		BRACKET	
5	1		528534-1		BRACKET	
6	1		307166-1		SHAFT, REMOTE	
7	1		417130-1		GUIDE, MODULE	
8	1		96P10594T13		CAP, 1.0 UF, 400 VDC, C1	56289
9	1		528766G1		MIXER CARD ASSY, A2	
10	1		528763G1		CODE & LEVEL CONVERTER ASSY, A4	
11	1		528764G1		DECISION UNIT ASSY, A3	
12	1		83054E		SWITCH TOGGLE, SPST, S1, ARROW-HART & HEGEMAN	
					ELEC	
13	1		104290-001	1	SWITCH TOGGLE, SPDT, S2	
14	1		CR04-RCS-N123		LAMP, CARTRIDGE, XDS1	03797
15	1		104216-001	1	CLIP, SPRING TENSION	
16	16		106211-011	1	SPACER, HEX	
17	1		920-0119		BEARING, PANEL	83330
18	2		6443J		UNIVERSAL JOINT	39428
19	1		7300		POTENTIOMETER, 1K, R1	75042
20	1		PA6001		SWITCH, ROTARY, S3	71590
21	2		70-4-2G		KNOB, POINTER	49956
22	1		SW-20		SWITCH, COAX, S4	23042
23	1		P202-33		OSC, VCO, 70 MHZ, Y1	16681
24	1		HP60155C		POWER SUPPLY, PS1	09182
25	1		LCD-4-13		POWER SUPPLY, PS2	80103
26	1		LM-0V-1		OVERVOLTAGE PROTECTOR	80103
27	1		ST682YS		FAN, B1	82877
28	9		UG911A/U		CONN, COAX, J2 THRU J10,	
29	4		103117-017	1	SPACER, SLEEVE	
30	1		101979-064	1	CONN, AC, J1	
31	12		MS35650-304		NUT, HEX, NO 10	
32	16		MS35338-138		WASHER, LOCK, NO 10	
33	18		MS15795-808		WASHER, FLAT, NO 10	
34	10		MS35338-137		WASHER, LOCK, NO 8	

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

SIZE	CODE IDENT NO.		REV
A	91417	PL 612795 sh 1	

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL 01	DWG. SIZE	PART OR IDENTIFYING NO.	MP	NOMENCLATURE OR DESCRIPTION	CODE IDENT
[redacted]	10		MS15795-807		WASHER, FLAT, NO 8	
[redacted]	15		MS35649-264		NUT, HEX, NO 6	
37	18		MS35338-136		WASHER, LOCK, NO 6	
38	18		MS15795-806		WASHER, FLAT, NO 6	
39	54		MS35338-135		WASHER, LOCK, NO 4	
40	54		MS15795-804		WASHER, FLAT, NO 4	
[redacted]	10		MS35649-244		NUT, HEX, NO 4	
42	10		MS51958-63		SCR, MACH, PNH, NO 10	
43	4		MS51958-62		SCR, MACH, PNH, NO 10	
44	4		MS51957-48		SCR, MACH, PNH, NO 8	
45	4		MS51957-46		SCR, MACH, PNH, NO 8	
46	4		MS51957-30		SCR, MACH, PNH, NO 6	
47	10		MS51957-31		SCR, MACH, PNH, NO 6	
48	REF		613573		WIRING DIAGRAM	
49	1		011-0069-01		ATTENUATOR, AT1	80009
50	48		MS51957-15		SCR, MACH PNH, NO 4	
51	2		MS51957-43		SCR, MACH PNH, NO 8	
52	1		307166-2		SHAFT, REMOTE	
53	1		528547-1		BRACKET, COMPONENT	
54	1		20132-2		FINGER GUARD	82877
55	1		104886-001	1	FUSEHOLDER, XF1	
56	1		17-80177-1		CONN, RCPT, J11	74868
57	1		17-80003-1		CONN, RCPT, J12	74868
58	REF		528546		DRAWING TREE	
59	10		17-1130-01		CONTACT SOCKET	74868
60	1		H492-3		DIAL, KNOBLOCK	80294
61	17		17-763-02		CONTACT, SOCKET	74868
62	26		2037-5006		CONN	26805
63	AR		RG-174/U		CABLE, COAX, MIL-C-17	
64	2		MS51957-17		SCR, MACH, PNH, NO 4	
65	8		MS51957-16		SCR, MACH, PNH, NO 4	
[redacted]	AR		TYPE E22, WHT		WIRE, ELEC, MIL-W-16878	
67	5		31-315		CONN, BNC, STRAIGHT	74868
[redacted]	1		33275		CONN, BNC, 90°	74868
69	9		31-759		SHIELD, GROUNDING LUG	74868

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G1	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION	CODE IDENT
70	1		MS35490-27		GROMMET	
	1		17258S		CORD, AC, 9 FT	70903
72						
73	1		38TB10		TERMINAL BOARD MIL-T-55164/1	
74	1		104370-010	1	STRIP MARKER	
75	4		MS51957-19		SCR MACH PNH NO 4	
76	AR		E22 VIO		WIRE, ELECT, STRD, MIL-W-16878/4	
77	AR		E22 RED		WIRE, ELEC, STRD, MIL-W-16878/4	
78	AR		E22 YEL		WIRE, ELEC, STRD, MIL-W-16878/4	
79	AR		E18 BLK		WIRE, ELEC, STRD, MIL-W-16878/4	
80	AR		E18 WHT		WIRE, ELEC, STRD, MIL-W-16878/4	
81	AR		E16 BLK		WIRE, ELEC, STRD, MIL-W-16878/4	
82	AR		E16 WHT		WIRE, ELEC, STRD, MIL-W-16878/4	
83	AR		E16, VIO		WIRE, ELEC, STRD, MIL-W-16878/4	
84	AR		E16 RED		WIRE, ELEC, STRD, MIL-W-16878/4	
85	REF		529660		BLOCK DIAGRAM	

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

SIZE	CODE IDENT NO.		REV
A	91417	PL 612795	
SCALE	83	SHEET 6	

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G2	DWG. SIZE	PART OR IDENTIFYING NO.	MP	NOMENCLATURE OR DESCRIPTION	3 CODE IDENT
1	1		612794G2		CHASSIS, MODIFICATION	
2	1		2		MODULE ASSY, A1	
3	1		528530G1		BRACKET, POWER SUPPLY	
4	1		528533-1		BRACKET	
5	1		528534-1		BRACKET	
6	1		307166-1		SHAFT, REMOTE	
7	1		417130-1		GUIDE, MODULE	
8	1		96P10594T13		CAP, 1.0 UF, 400 VDC, C1	56289
9	1		528766G1		MIXER CARD ASSY, A2	
10	1		529254G1		OUTPUT ASSY, A4	
11	1		528764G1		DECISION UNIT ASSY, A3	
12	1		83054E		SWITCH, TOGGLE, SPST, S1 ARROW-HART & HEGEMAN	
					ELEC	
13	1		104290-001		SWITCH, TOGGLE, SPDT, S2	
14	1		CR04-RCS-N123		LAMP, CARTRIDGE, XDS1	03797
15	1		104216-001	1	CLIP, SPRING TENSION	
16	16		106211-011	1	SPACER, HEX	
17	1		920-0119		BEARING, PANEL	83330
18	2		6443J		UNIVERSAL JOINT	39428
19	1		7300		POTENTIOMETER, 1K, R1	75042
20	1		PA6001		SWITCH, ROTARY, S3	71590
21	2		70-4-2G		KNOB, POINTER	49956
22	1		SW-20		SWITCH, COAX, S4	23042
23	1		P202-33		OSC, VCO, 70 MHZ, Y1	16681
24	1		HP60155C		POWER SUPPLY, PS1	09182
25	1		LCD-4-13		POWER SUPPLY, PS2	80103
26	1		LM-0V-1		OVERVOLTAGE PROTECTOR	80103
27	1		ST682YS		FAN, B1	82877
28	9		UG911A/U		CONN, COAX, J2 THRU J10,	
29	4		103117-017	1	SPACER, SLEEVE	
30	1		101979-064	1	CONN, AC, J1	
31	12		MS35650-304		NUT, HEX, NO 10	
32	14		MS35338-138		WASHER, LOCK, NO 10	
33	18		MS15795-808		WASHER, FLAT, NO 10	
34	10		MS35338-137		WASHER, LOCK, NO 8	

RADIATION INCORPORATED	SIZE	CODE IDENT NO.		REV
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA	A	91417	84 PL 612795	

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G2	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION	CODE IDENT
36	10		MS15795-807		WASHER, FLAT, NO 8	
	15		MS35649-264		NUT, HEX, NO 6	
37	18		MS35338-136		WASHER, LOCK, NO 6	
38	18		MS15795-806		WASHER, FLAT, NO 6	
39	54		MS35338-135		WASHER, LOCK, NO 4	
40	54		MS15795-804		WASHER, FLAT, NO 4	
	10		MS35649-244		NUT, HEX, NO 4	
42	10		MS51958-63		SCR, MACH, PNH, NO 10	
43	4		MS51958-62		SCR, MACH, PNH, NO 10	
44	4		MS51957-48		SCR, MACH, PNH, NO 8	
45	4		MS51957-46		SCR, MACH, PNH, NO 8	
46	4		MS51957-30		SCR, MACH, PNH, NO 6	
47	10		MS51957-31		SCR, MACH, PNH, NO 6	
48	REF		613574		WIRING DIAGRAM	
49	1		011-0069-01		ATTENUATOR, AT1	80009
50	48		MS51957-15		SCR, MACH, PNH, NO 4	
51	2		MS51957-43		SCR, MACH, PNH, NO 8	
52	1		307166-2		SHAFT, REMOTE	
53	1		528547-2		BRACKET, COMPONENT	
54	1		20132-2		FINGER GUARD	82877
55	1		104886-001	1	FUSEHOLDER, XF1	
56	1		17-80177-1		CONN, RCPT, J11	74868
57	1		17-80003-1		CONN, RCPT, J12	74868
58	REF		528795		DRAWING TREE	
59	10		17-1130-01		CONTACT, SOCKET	74868
60	1		H492-3		DIAL, KNOBLOCK	80294
61	17		17-763-02		CONTACT, SOCKET	74868
62	26		2037-5006		CONNECTOR	26805
63	AR		RG-174/U		CABLE, COAX, MIL-C-17	
64	2		MS51957-17		SCR, MACH, PNH, NO 4	
65	8		MS51957-16		SCR, MACH, PNH, NO 4	
66	AR		TYPE E22, WHT		WIRE, ELEC, STRD, MIL-W-16878/4	
67	5		31-315		CONN, BNC, STRAIGHT	74868
	1		33275		CONN, BNC, 90°	74868
69	9		31-759		SHIELD, GROUNDING LUG	74868

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

SIZE	CODE IDENT NO.		REV
A	91417	PL 612795	

SCALE

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G2	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION	3 CODE IDENT
70	1		MS35490-27		GROMMET	
71	1		17258S		CORD, AC, 9 FT	70903
72						
73	1		38TB10		TERMINAL BOARD MIL-T-55164/1	
74	1		104370-010	1	STRIP, MARKER	
75	4		MS51957-19		SCREW, MACH, PNH, NO 4	
76	1		612920G1		MAGNITUDE DETECTOR ASSY, A5	
77	AR		E22 VIO		WIRE, ELEC, STRD, MIL-W-16878/4	
78	AR		E22 RED		WIRE, ELEC, STRD, MIL-W-16878/4	
79	AR		E22 YEL		WIRE, ELEC, STRD, MIL-W-16878/4	
80	AR		E18 BLK		WIRE, ELEC, STRD, MIL-W-16878/4	
81	AR		E18 WHT		WIRE, ELEC, STRD, MIL-W-16878/4	
82	AR		E16 BLK		WIRE, ELEC, STRD, MIL-W-16878/4	
83	AR		E16 WHT		WIRE, ELEC, STRD, MIL-W-16878/4	
84	AR		E16 VIO		WIRE, ELEC, STRD, MIL-W-16878/4	
85	AR		E16 RED		WIRE, ELEC, STRD, MIL-W-16878/4	
86	REF		531750		BLOCK DIAGRAM	

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

SIZE	CODE IDENT NO.		REV
A	91417	PL 612795	

SCALE

SHEET 9

U. S. Blue Print Paper Co. CLEARPRINT 1000H

APPLICATION		
DASH NO.	NEXT ASSY	USED ON
-1-4	528535	6754
-2	528535	6803-2002

REVISIONS					
LTR	DESCRIPTION			DATE	APPROVED
	CHG BY	CHK BY	ECO NO.		

ENGRG DEV

REVISION INDEX	SHEET	1	2	3	4	5	6	7	8	9
	REV									

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE APPLIED FINISH TOLERANCES

2 PLACE ±	3 PLACE ±	ANGLES ±

CONTRACT NO.

DR BY B. Ray 5/28/71 | CHK BY

ENGINEER

PROJECT ENGINEER 6/7/71

APPROVAL

APPROVAL 87

RADIATION INCORPORATED

SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

TITLE

PARTS LIST -
MATCHED FILTER ASSEMBLY

SIZE	CODE IDENT NO.		REV
A	91417	PL 528761	

SCALE NONE | SHEET 1 OF 10

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL C1	DWG SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION CODE IDENT
	1		CD-23		LINE DRIVER, DDC, AR-1
	8		CK06BX104K		CAPACITOR, FXD, CER, C2, 13, 9, 19, 20, 21, 15, 13
	1		CN0533		CAPACITOR, FXD, CER, C16
4	2		CS13BF685K		CAPACITOR, FXD, TANT, C1, C8
	1		RA2-2605-5		DC VIDEO AMP, HARRIS, AR-2
6	1		RCR07G166JS		RES, FXD, R10
	1		RCR07G392JS		RES, FXD, R8
5	2		RN60C4991F		RES, FXD, R18, R11
7	1		RCR07G473JS		RES, FXD, R17
10	2		RCR07G511JS		RES, FXD, R9, R12
11	2		RN60C1003F		RES, FXD, R14, R16
12	1		RN60C2150F		RES, FXD, R6
13	1		RN60C49R9F		RES, FXD, R1
14	1		RN60C61R9F		RES, FXD, R7
15	1		RN65C56R2F		RES, FXD, R2
16	1		VA-23		INTEGRATED CIRCUIT, OPNL AMP, DDC, AR-3
17	6		VK-200-20-4B		BEAD, FERRX CUBE, L1, 6, 10, 11, 12, 9
18	2		2066-1322		CONNECTOR, AMERICON, J1, J2
19	1		3251W-1-104		RES, VAR, BOURNS, R13
20	2		3251W-1-503		RES, VAR, BOURNS, R5, R17
21	2 PR		5802-2308		DIODE, MTCHD PR, HP, CR1, CR2
22	2		CK05BX391K		CAPACITOR, FXD, C18, C17
23	1		CM05FD121J03		CAPACITOR, FXD, C7
24	1		CM05CD100J03		CAPACITOR, FXD, C3
25	1		CM05ED680J03		CAPACITOR, FXD, C5
26	1		CM05FD151J03		CAPACITOR, FXD, C10
27	1		CN0533		CAPACITOR, FXD, C14
28	1		LF4W016		INDUCTOR, FXD 0.16 U, JFD, L7
29	1		LF4W030		INDUCTOR, FXD, 0.3 UH, JFD, L3
30	1		LF4W040		INDUCTOR, FXD, 0.4 UH, JFD, L5
31	1		CM15E270JN3		CAPACITOR, FXD, C12
32	1		RN60C3920F		RES, FXD, R3
33	1		RN60C8060F		RES, FXD, R4
	REF		CM528459-1		CIRCUIT MASTER
35	REF		417304		SCHEMATIC DIAGRAM

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

SIZE	CODE IDENT NO.		REV
A	91417	PL 528761	

SHEET 2

ITEM	QTY PER ASSY LEVEL G2	DWG SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION
	1		CD-23		LINE DRIVER, DDC, AR-1
	8		CK06BX104K		CAPACITOR, FXD, C2,13,9,19,20,21,15,18
	1		CN0533		CAPACITOR, FXD, C16
4	2		CS13BF685K		CAPACITOR, FXD, C1, C8
	1		RA2-2605-5		DC VIDEO AMP, HARRIS, AR-2
	1		RCR07G166JS		RES, FXD, R10
	1		RCR07G392JS		RES, FXD, R8
	2		RN60C4991F		RES, FXD, R18, R11
	1		RCR07G473JS		RES, FXD, R17
	2		RCR07G511JS		RES, FXD, R9, R12
11	2		RN60C1003F		RES, FXD, R14, R16
	1		RN60C2150F		RES, FXD, R6
13	1		RN60C49R9F		RES, FXD, R1
	1		RN60C61R9F		RES, FXD, R7
15	1		RN65C56R2F		RES, FXD, R2
	1		VA-23		INTEGRATED CIRCUIT, OPNL AMP, DCC, AR-3
17	6		VK-200-20-4B		BEAD, FERRX CUBE, L1, 6,10,11,12,9
	2		2066-1322		CONNECTOR, AMERICON, J1, J2
19	1		3251W-1-104		RES, VAR, BOURNS, R13
20	2		3251W-1-503		RES, VAR, BOURNS, R5, R17
	2 PR		5802-2208		DIODE, MTCHD PR, HP. CR1, CR2
22	2		CK05BX681K		CAPACITOR, FXD, C18,C17
	1		CM05CD120J03		CAPACITOR, FXD, C7
24	1		CM05FD101J03		CAPACITOR, FXD, C3
	1		CM05FD221J03		CAPACITOR, FXD, C5
26	1		CM05FD271J03		CAPACITOR, FXD, C10
	1		CN0547		CAPACITOR, FXD, C14
28	1		LF4W025		INDUCTOR, FXD, 0.16U, JFD, L7
	1		LF4W050		INDUCTOR, FXD, 0.3 UH, JFD, L3
30	1		LF4W070		INDUCTOR, FXD, 0.4 UH. JFD, L5
31	1		CM15E270JN3		CAPACITOR, FXD, C12
	1		RN60C3920F		RESISTOR, FXD, R3
33	1		RN60C8060F		RESISTOR, FXD, R4
	1		CM528459-1		CIRCUIT MASTER
	1		417304		SCHEMATIC DIAGRAM

RADIATION INCORPORATED
A SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

SIZE	CODE IDENT NO.		REV
A	91417	PL 523761	

SCALE

SHEET 3

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G3	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION
1	1		CD-23		LINE DRIVER, DDC, AR-1
2	8		CK06BX104K		CAPACITOR, FXD, CER, C2,13,9,19,20,21,15,13
3	1		CN0533		CAPACITOR, FXD, CER, C16
4	2		CS13BF686K		CAPACITOR, FXD, TANT, C1, C8
5	1		RA2-2605-5		DC VIDEO AMP, HARRIS, AR-2
6	1		RCR07G166JS		RES, FXD, R10
7	1		RCR07G392JS		RES, FXD, R8
8	2		RN60C4991F		RES, FXD, R18, R11
9	1		RCR07G473JS		RES, FXD, R17
10	2		RCR07G511JS		RES, FXD, R9, R12
11	2		RN60C1003F		RES, FXD, R14, R16
12	1		RN60C2150F		RES, FXD, R6
13	1		RN60C49R9F		RES, FXD, R1
14	1		RN60C61R9F		RES, FXD, R7
15	1		RN65C56R2F		RES, FXD, R2
16	1		VA-23		INTEGRATED CIRCUIT, OPNL AMP, DDC, AR-3
17	5		VK-200-20-4B		BEAD, FERRX CUBE, L1,6,10,11,12,9
18	2		2066-1322		CONNECTOR, AMERICON, J1, J2
19	1		3251W-1-104		RES, VAR, BOURNS, R13
20	2		3251W-1-503		RES, VAR, BOURNS, R5, R17
21	2 PR		5802-2308		DIODE, MTCHD PR, HP, CR1, CR2
22	2		CK06BX272K		CAPACITOR, FXD, C18, C17
23	1		CM05FD391J03		CAPACITOR, FXD, C5
24	1		CM06FD122J03		CAPACITOR, FXD, C10
25	1		CM06FD821J03		CAPACITOR, FXD, C7
26	1		CM05FD050J03		CAPACITOR, FXD, C3
27	1		CM05FD180J03		CAPACITOR, FXD, C14
28	1		CM05FD101J03		CAPACITOR, FXD, C12
29	1		RN60C3921F		RES, FXD 1 R3
30	1		RN60C8061F		RES, FXD R4
31	1		LF4W100		INDUCTOR, FXD L7
32	1		WEE-WEE-2.2		INDUCTOR, FXD L3
33	1		WEE-WEE-2.7		INDUCTOR, FXD L5
	1		CM528459-1		CIRCUIT MASTER
35	1		417304		SCHEMATIC DIAGRAM

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

SIZE	CODE IDENT NO.		REV
A	91417	PL528761	

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G4	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION
	1		CD-23		LINE DRIVER AR1
	8		CK06BX104K		CAPACITOR, FXD C2,9,13,15,19,20,21
	1		CN0533		CAPACITOR, FXD C16
4	2		CS13BF685K		CAPACITOR, FXD C1,8
	1		RA2-2605-5		DC VIDEO AMP AR2
	1		RCR07G166JS		RES, FXD R10
	1		RCR07G392JS		RES, FXD R8
	2		RN60C4991F		RES, FXD R11,18
	1		RCR07G473JS		RES, FXD R15
10	2		RCR07G511JS		RES, FXD R9,12
11	2		RN60C1003F		RES, FXD R16,14
12	1		RN60C2150F		RES, FXD R6
13	1		RN60C49R9F		RES, FXD R1
14	1		RN60C61R9F		RES, FXD R7
15	1		RN65C56R2F		RES, FXD R2
16	1		VA-23		INTEGRATED CIRCUIT, OPNL AMP, AR3
17	6		VK-200-20-4B		BEAD, FERRX CUBE L1,6,10,11,12,9
18	2		2066-1322		CONNECTOR J1,2
19	1		3351W-1-104		RES. VAR R13
20	2		3251W-1-503		RES, VAR R17,5
21	2 PR		5802-2308		DIODE, MTCHD PR CR1 & 3, CR2 & 4
22	2		CK06BX682K		CAPACITOR, FXD C17,18
23	1		CM06FD102J03		CAPACITOR, FXD C5
24	1		CM06FD222J03		CAPACITOR, FXD C7
25	1		CM06FD272J03		CAPACITOR, FXD C10
26	1		WEE-WEE-2.7		INDUCTOR, FXD L7
27	1		WEE-WEE-5.6		INDUCTOR, FXD L3
28	1		WEE-WEE-6.8		INDUCTOR, FXD L5
29	1		CM15E270JN3		CAPACITOR, FXD C12
30	1		CM05FD120JN3		CAPACITOR, FXD C3
31	1		CM05FD300JN3		CAPACITOR, FXD C14
32	1		RN60C3921F		RES, FXD R3
33	1		RN60C9061F		RES, FXD R4
	REF		CM528459-1		CIRCUIT MASTER
35	REF		417304		SCHEMATIC DIAGRAM

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS INTERTYPE CORPORATION, MELBOURNE, FLORIDA

SIZE	CODE IDENT NO.		REV
A	91417	PL 528761	

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G5	DWG. SIZE	PART OR IDENTIFYING NO	M P	NOMENCLATURE OR DESCRIPTION
1	1		CD-23		LINE DRIVER, AR1
2	2		CK06BX104K		CAPACITOR, FXD, C2, C9, C13, C15, C19, C20, C21
3	1		CN0533		CAPACITOR, FXD, C16
4	2		CS13BF685K		CAPACITOR, FXD, C1, C8
5	1		RA-2-2605-5		DC VIDEO AMP, AR2
6	1		RCR07G1R6JS		RES, FXD, R10
7	1		RN60C4991F		RES, FXD, R8
8	2		RCR07G471JS		RES, FXD, R11, R18
9	1		RCR07G473JS		RES, FXD, R15
10	2		RCR07G511JS		RES, FXD, R9, R12
11	2		RN60C1003F		RES, FXD, R16, R14
12	1		RN60C2150F		RES, FXD, R6
13	1		RN60C49R9F		RES, FXD, R1
14	1		RN60C61R9F		RES, FXD, R7
15	1		RN65C56R2F		RES, FXD, R2
16	1		VA-23		INTEGRATED CIRCUIT, OPNL AMP, AR3
17	6		VK-200-20-4B		BEAD, FERRX CUBE, L1, L6, L10, L11, L12, L9
18	2		2066-1322		CONNECTOR, J1, J2
19	1		3251W-1-104		RES, VAR, R13
20	2		3251W-1-503		RES, VAR, R17, R5
21	2 RR		5802-2308		DIODE, MTCHD PR, CR1& CR3, CR2 & CR4
22	2		LF4W060		INDUCTOR, FXD, 0.6 UH, L5, L7
23	1		LF4W100		INDUCTOR, FXD, 1.0 UH, L2
24	1		LF4W080		INDUCTOR, FXD, 0.8 UH, L3
25	1		LF4W035		INDUCTOR, FXD, 0.35 UH, L8
26	2		CM15CD470JN1		CAPACITOR, FXD, C4, C11
27	3		CM15CD181JN1		CAPACITOR, FXD, C6, C7, C10
28	1		CM15CD390JN1		CAPACITOR, FXD, C5
29	1		CM15CD4R7JN1		CAPACITOR, FXD, C3
30	2		CK06BX561K		CAPACITOR, FXD, C17, C18
31	1		LF4W600		INDUCTOR, FXD, 6.0 UH, L4
32	REF		CM528459-1		CIRCUIT MASTER
	REF		417304		SCHEMATIC DIAGRAM
34	1		RN60C3920F		RES, FXD, R3

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

SIZE	CODE IDENT NO.		REV
A	91417	PL 528761	

SCALE

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G5	DWG SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION
	1		RN60C8060F		RES, FXD, R4
5G	1		EMISE C70 JN3		CAP, FXD .C12

	SIZE	CODE IDENT NO.		REV
RADIATION INCORPORATED SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA	A	91417	18MB 93 PL528761	

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G7	DWG SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION
36	REF		CM528459-1		CIRCUIT MASTER
	REF		417304		SCHEMATIC DIAGRAM
38	1		CM153270N3		CAP, FXD, C12

	SIZE	CODE IDENT NO.		REV
RADIATION INCORPORATED SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA	A	91417	13, 5 MIS 94 PL 528761	

ITEM	QTY PER ASSY LEVEL G7	DWG SIZE	PART OR IDENTIFYING NO	M P	NOMENCLATURE OR DESCRIPTION	
[illegible]	1		CD-23		LINE DRIVER	DDC, AR1
2	8		CK06BX104K		CAPACITOR, FXD	C2,13,9,19,20,21,15,13
[illegible]	1		CN0533		CAPACITOR, FXD	C16
4	2		CS13BF685K		CAPACITOR, FXD	C1,8
[illegible]	1		RA2-2605-5		DC VIDEO AMP	HARRIS, AR2
[illegible]	1		RCR07G16[illegible]JS		RES, FXD	R10
[illegible]	1		RCR07G392JS		RES, FXD	R8
[illegible]	2		RN60C4991F		RES, FXD	R18,11
[illegible]	1		RCR07G47[illegible]JS		RES, FXD	R17
10	2		RCR07G511JS		RES, FXD	R9,12
11	2		RN60C1003F		RES, FXD	R14,16
12	1		RN60C2150F		RES, FXD	R6
13	1		RN60C49R9F		RES, FXD	R1
14	1		RN60C61R9F		RES, FXD	R7
15	1		RN65C56R2F		RES, FXD	R2
16	1		VA-23		INTEGRATED CIRCUIT, OPNL AMP, DDC, AR3	
17	6		VK-200-20-4B		BEAD, FERRX CUBE	L1,6,10,11,12,9
18	2		2066-1322		CONNECTOR	AMERICON, J1,2
19	1		3251W-1-104		RES, VAR	BOURNS, R13
20	2		3251W-1-503		RES, VAR	BOURNS, R5,17
21	2 PR		5802-2303		DIODE, MTCHD PR	CR1, CR2, HP
22	1		LF4W060		INDUCTOR, FXD	L2,
23	1		LF4W100		INDUCTOR, FXD	L4
24	1		WEE-WEE-3.3		INDUCTOR, FXD	L5
25	1		LF4W030		INDUCTOR, FXD	L7
26	1		CM15CD221JN1		CAPACITOR, FXD	C6
27	2		CM15CD150JN1		CAPACITOR, FXD	C7, C3
28	1		CM15CD121JN1		CAPACITOR, FXD	C4
29	1		CM15CD271JN1		CAPACITOR, FXD	C10
30	1		CM15CD330JN1		CAPACITOR, FXD	C11
31	2		GP375		CAPACITOR	C18,17
[illegible]	1		CN0568		CAPACITOR	C14
33	1		CM15ED390J03		CAPACITOR	C12
34	1		RN60C392GF		RES, FXD,	R3
[illegible]	1		RN60C8060F		RES, FXD	R4

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS INTERTYPE CORPORATION, MELBOURNE, FLORIDA

SIZE	CODE IDENT NO.		REV
A	91417	13.5 MG PL 528761	
SCALE	95	SHEET 9	

ITEM	QTY PER ASSY LEVEL (G7)	DWG SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION	
	1		CD-23		LINE DRIVER	DDC, AR1
2	8		CK06BX104K		CAPACITOR, FXD	C2,13,9,19,20,21,
	1		CN0533		CAPACITOR, FXD	C16
4	2		CS13BF685K		CAPACITOR, FXD	C1,8
	1		RA2-2605-5		DC VIDEO AMP	HARRIS, AR2
	1		RCR07G1[illegible]JS		RES, FXD	R10
	1		RCR07G392JS		RES, FXD	R8
8	2		RN60C4991F		RES, FXD	R18,11
	1		RCR07G47[illegible]JS		RES, FXD	R17
10	2		RCR07G511JS		RES, FXD	R9,12
11	2		RN60C1003F		RES, FXD	R14,16
12	1		RN60C2150F		RES, FXD	R6
13	1		RN60C49R9F		RES, FXD	R1
14	1		RN60C61R9F		RES, FXD	R7
15	1		RN65C56R9F		RES, FXD	R2
16	1		VA-23		INTEGRATED CIRCUIT, OPNL AMP, DDC,	
17	6		VK-200-20-4B		BEAD, FERRX CUBE	L1,6,10,11,12,9
18	2		2066-1322		CONNECTOR	AMERICON, J1,2
19	1		3251W-1-104		RES, VAR	BOURNS, R13
20	2		3251W-1-503		RES, VAR	BOURNS, R5,17
21	2 PR		5802-2308		DIODE, MTCHD PR	CR1, CR2, HP
22	1		LF4W060		INDUCTOR, FXD	L2,
23	1		LF4W100		INDUCTOR, FXD	L4
24	1		WEE-WEE-3.3		INDUCTOR, FXD	L5
25	1		LF4W030		INDUCTOR, FXD	L7
26	1		CM15CD221JN1		CAPACITOR, FXD	C6
27	2		CM15CD150JN1		CAPACITOR, FXD	C7, C3
28	1		CM15CD121JN1		CAPACITOR, FXD	C4
29	1		CM15CD271JN1		CAPACITOR, FXD	C10
30	1		CM15CD330JN1		CAPACITOR, FXD	C11
31	2		GP375		CAPACITOR	C18,17
	1		CN0568		CAPACITOR	C14
33	1		CM15ED390J03		CAPACITOR	C12
34	1		RN60C392GF		RES, FXD,	R3
	1		RN60C8060F		RES, FXD	R4

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS INTERTYPE CORPORATION, MELBOURNE, FLORIDA

SIZE	CODE IDENT NO.	13.5 MB
A	91417	PL 528761

SCALE	96	SHEET

U. S. BLUE PRINT PAPER CO. CLEARPRINT 1000H

V

APPLICATION		
DASH NO.	NEXT ASSY	USED ON
01-4	528535	6754
-7	528535	6803-2002

REVISIONS					
LTR	DESCRIPTION			DATE	APPROVED
	CHG BY	CHK BY	ECO NO.		

ENGRG DEV

REVISION INDEX	SHEET	1	2	3	4	5	6	7	8	9
	REV									

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE APPLIED FINISH TOLERANCES

2 PLACE ± 3 PLACE ± ANGLES ±

CONTRACT NO.

DR BY R. Ray 5/25/71 CHK BY

ENGINEER

PROJECT ENGINEER 6/3/71

APPROVAL

APPROVAL 97

RADIATION INCORPORATED

SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

TITLE

GENERAL PART LIST,
MODULE ASSEMBLY

SIZE	CODE IDENT NO.		REV
A	91417	PL 528535	

SCALE NONE SHEET 1 OF 9

NOTES:

1. VENDOR ITEM - SEE SOURCE CONTROL OR SPECIFICATION CONTROL DRAWING.

2.

CODE IDENT NO.	VENDOR
26805	AMERICON
74868	AMPHENOL
03797	ELDEMA CORP.

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL	DWG SIZE	PART OR IDENTIFYING NO.	MP	NOMENCLATURE OR DESCRIPTION	CODE IDENT
1	1		528531G1		CHASSIS	
2	1		528532G1		PANEL, FRONT	
3	1		115224-003	1	AMMETER, M1	
4	1		528761G1		MATCHED FILTER ASSY, A1	
5	1		528762G1		PHASE LOCK LOOP ASSY, A2	
6	1		104215-026	1	LAMP, CARTRIDGE, DS1	
7	1		104216-001	1	CLIP, SPRING TENSION	
8	1		104290-001	1	SWITCH, TOGGLE, SPDT, S1	
9	1		17-90003-1		CONNECTOR, P2	74868
10	1		17-90177-1		CONNECTOR, P1	74868
11	10		17-1132-01		CONTACT PIN, COAX	74868
12	1		O-082-1M		SOCKET, LAMP	03797
13	12		MS51957-14		SCR, PNH, 4-40 X 3/8	
14	4		MS51957-15		SCR, PNH 4-40 X 5/16	
15	18		MS35338-135		WASHER, LOCK, NO 4	
16	18		MS15795-804		WASHER, FLAT, NO 4	
17	6		2037-5008		PLUG, COAXIAL	26805
18	4		MS35649-244		NUT, PLAIN, 4-40	
19	AR		RG-174/U		CABLE, COAX, MIL-C-17	
20	AR		TYPE E22, WHT		WIRE, ELEC, STRD, MIL-W-16878/4	
21	1		106573-003	1	CLAMP	
22	1		MS24618-18		SCR, SELF-TAPPING, NO 6	
23	4		MS51959-15		SCR, FLH, 4-40 X 3/8	
24	AR		E24 WHT		WIRE, ELEC, MIL-W-16878/4	
25	AR		E24 RED		WIRE, ELEC, MIL-W-16878/4	
26	AR		E24 BLK		WIRE, ELEC, MIL-W-16878/4	
27	AR		E24 ORN		WIRE, ELEC, MIL-W-16878/4	
28	REF		531007		CONNECTION DIAGRAM	

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

SIZE	CODE IDENT NO.		REV
A	91417	PL 528535	
SCALE	99	SHEET 3	

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G2	DWG SIZE	PART OR IDENTIFYING NO.	MP	NOMENCLATURE OR DESCRIPTION	CODE IDENT
1	1		528531G1		CHASSIS	
2	1		528532G2		PANEL, FRONT	
3	1		115294-003	1	AMMETER, M1	
4	1		528761G2		MATCHED FILTER ASSY, A1	
5	1		528762G2		PHASE LOCK LOOP ASSY, A2	
6	1		104215-026	1	LAMP, CARTRIDGE, DS1	
7	1		104216-001	1	CLIP, SPRING TENSION	
8	1		104290-001	1	SWITCH, TOGGLE, SPDT, S1	
9	1		17-90003-1		CONNECTOR, P2	74868
10	1		17-90177-1		CONNECTOR, P1	74868
11	10		17-1132-01		CONTACT PIN, COAX	74868
12	1		Q-032-1M		SOCKET, LAMP	
13	12		MS51957-14		SCR, PNH, 4-40 X 3/8	
14	4		MS51957-15		SCR, PNH, 4-40 X 5/16	
15	18		MS35338-135		WASHER, LOCK, NO 4	
16	18		MS15795-804		WASHER, FLAT, NO 4	
17	6		2037-5003		PLUG, COAXIAL	26805
18	4		MS35649-244		NUT, PLAIN, 4-40	
19	AR		RG-174/U		CABLE, COAX, MIL-C-17	
20	AR		TYPE E22, WHT		WIRE, ELEC, STRD, MIL-W-16878/4	
21	1		106573-003	1	CLAMP	
22	1		MS24618-18		SCR, SELF-TAPPING, NO 6	
23	4		MS51959-15		SCR, FLH 4-40 X 3/8	
24	AR		E24 WHT		WIRE, ELEC, MIL-W-16878/4	
25	AR		E24 RED		WIRE, ELEC, MIL-W-16878/4	
26	AR		E24 BLK		WIRE, ELEC, MIL-W-16878/4	
27	AR		E24 ORN		WIRE, ELEC, MIL-W-16878/4	
28	REF		531007		CONNECTION DIAGRAM	

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

SIZE	CODE IDENT NO.		REV
A	91417	PL 523535	
SCALE	100	SHEET	

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G3	DWG SIZE	PART OR IDENTIFYING NO.	MP	NOMENCLATURE OR DESCRIPTION	CODE IDENT
	1		528531G1		CHASSIS	
	1		528532G3		PANEL, FRONT	
3	1		115284-003	1	AMMETER, M1	
4	1		528761G3		MATCHED FILTER ASSY, A1	
5	1		528762G3		PHASE LOCK LOOP ASSY, A2	
6	1		104215-026	1	LAMP, CARTRIDGE, DS1	
7	1		104216-001	1	CLIP, SPRING TENSION	
8	1		104280-001	1	SWITCH, TOGGLE, SPDT, S1	
9	1		17-90003-1		CONNECTOR, P2	74868
10	1		17-90177-1		CONNECTOR, P1	74868
11	10		17-1132-01		CONTACT PIN, COAX	74868
12	1		Q-082-1M		SOCKET, LAMP	03797
13	12		MS51957-14		SCR, PNH, 4-40 X 3/8	
14	4		MS51957-15		SCR, PNH, 4-40 X 5/16	
15	18		MS35338-135		WASHER, LOCK, NO4	
16	18		MS15795-804		WASHER, FLAT, NO 4	
17	6		2037-5008		PLUG, COAXIAL	26805
18	4		MS35649-244		NUT, PLAIN, 4-40	
19	AR		RG-174/U		CABLE, COAX., MIL-C-17	
20	AR		TYPE E22, WHT		WIRE, ELEC, STRD, MIL-W-16878/4	
21	1		106573-003	1	CLAMP	
22	1		MS24618-18		SCR, SELF-TAPPING, NO 6	
23	4		MS51959-15		SCR, FLH, 4-40 X 3/8	
24	AR		E24 WHT		WIRE, ELEC, MIL-W-16878/4	
25	AR		E24 RED		WIRE, ELEC, MIL-W-16878/4	
26	AR		E24 BLK		WIRE, ELEC, MIL-W-16878/4	
27	AR		E24 ORN		WIRE, ELEC, MIL-W-16878/4	
28	REF		531007		CONNECTION DIAGRAM	

RADIATION INCORPORATED
A SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

SIZE	CODE IDENT NO.		REV
A	91417	PL 528535 /01	

SCALE | SHEET 6

U.S. BY SPIRIT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL	DWG SIZE	PART OR IDENTIFYING NO.	MP	NOMENCLATURE OR DESCRIPTION	CODE IDENT
1	1		528531G1		CHASSIS	
2	1		528532G4		PANEL, FRONT	
3	1		115294-003	1	AMMETER, M1	
4	1		528761G4		MATCHED FILTER ASSY, A1	
5	1		528762G4		PHASE LOCK LOOP ASSY, A2	
6	1		104215-026	1	LAMP, CARTRIDGE, DS1	
7	1		104216-001	1	CLIP, SPRING TENSION	
8	1		104290-001	1	SWITCH, TOGGLE, SPDT, S1	
9	1		17-90003-1		CONNECTOR, P2	74868
10	1		17-90177-1		CONNECTOR, P1	74868
11	10		17-1132-01		CONTACT PIN, COAX	74868
12	1		C-082-1M		SOCKET, LAMP	03797
13	12		MS51957-14		SCR, PNH, 4-40 X 3/8	
14	4		MS51957-15		SCR, PNH, 4-40 X 5/16	
15	18		MS35338-135		WASHER, LOCK NO 4	
16	18		MS15795-804		WASHER, FLAT, NO 4	
17	6		2037-5003		PLUG, COAXIAL	26805
18	4		MS35649-244		NUT, PLAIN, 4-40	
19	AR		RG-174/U		CABLE, COAX, MIL-C-17	
20	AR		TYPE E22, WHT		WIRE, ELEC, STRD, MIL-W-16878/4	
21	1		106573-003	1	CLAMP	
22	1		MS24618-18		SCR, SELF-TAPPING, NO 6	
23	4		MS51959-15		SCR, FLH, 4-40 X 3/8	
24	AR		E24 WHT		WIRE, ELEC, MIL-W-16878/4	
25	AR		E24 RED		WIRE, ELEC, MIL-W-16878/4	
26	AR		E24 BLK		WIRE, ELEC, MIL-W-16878/4	
27	AR		E24 ORN		WIRE, ELEC, MIL-W-16878/4	
28	REF		531007		CONNECTION DIAGRAM	

ITEM	QTY PER ASSY LEVEL G5						DWG SIZE	PART OR IDENTIFYING NO.	MP	NOMENCLATURE OR DESCRIPTION	CODE IDENT
1	1							528531G1		CHASSIS	
2	1							528532G5		PANEL, FRONT	
3	1							115294-003	1	AMMETER, M1	
4	1							528761G5		MATCHED FILTER ASSY, A1	
5	1							528762G5		PHASE LOCK LOOP ASSY, A2	
6	1							104215-026	1	LAMP, CARTRIDGE, DS1	
7	1							104216-001	1	CLIP, SPRING TENSION	
8	1							104290-001	1	SWITCH, TOGGLE, SPDT, S1	
9	1							17-90003-1		CONNECTOR, P2	74868
10	1							17-90177-1		CONNECTOR, P1	74868
11	10							17-1132-01		CONTACT PIN, COAX	74868
12	1							O-082-1M		SOCKET, LAMP	03797
13	12							MS51957-14		SCR, PNH, 4-40 X 3/8	
14	4							MS51957-15		SCR, PNH, 4-40 X 5/16	
15	18							MS35338-135		WASHER, LOCK, NO 4	
16	18							MS15795-804		WASHER, FLAT, NO 4	
17	6							2037-5008		PLUG, COAXIAL	26805
18	4							MS35649-244		NUT, PLAIN, 4-40	
19	AR							RG-174/U		CABLE, COAX, MIL-C-17	
20	AR							TYPE E22, WHT		WIRE, ELEC, STRD, MIL-W-16878/4	
21	1							106573-003	1	CLAMP	
22	1							MS24618-18		SCR, SELF-TAPPING, NO 6	
23	4							MS51959-15		SCR, FLH, 4-40 X 3/8	
24	AR							E24 WHT		WIRE, ELEC, MIL-W-16878/4	
25	AR							E24 RED		WIRE, ELEC, MIL-W-16878/4	
26	AR							E24 BLK		WIRE, ELEC, MIL-W-16878/4	
27	AR							E24 ORN		WIRE, ELEC, MIL-W-16878/4	
28	REF							531758		CONNECTION DIAGRAM	

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G6	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION	CODE IDENT
	1		531G1		CHASSIS	
	1		533532G6		PANEL, FRONT	
	1		115294-003	1	AMMETER, M1	
4	1		538761G6		MATCHED FILTER ASSY, A1	
	1		538762G6		PHASE LOCK LOOP ASSY, A2	
	1		104215-026	1	LAMP, CARTRIDGE, DS1	
	1		104216-001	1	CLIP, SPRING, TENSION	
9	1		104290-001	1	SWITCH, TOGGLE, SPDT, S1	
	1		17-90003-1		CONNECTOR, P2	74868
10	1		17-90177-1		CONNECTOR, P1	74868
11	10		17-1132-01		CONTACT PIN, COAX	74868
12	1		Q-082-1M		SOCKET, LAMP	03797
13	12		MS51957-14		SCR, PNH, 4-40 X 3/8	
14	4		MS51957-15		SCR, PNH, 4-40 X 5/16	
15	18		MS35338-135		WASHER, LOCK, NO 4	
16	18		MS15795-804		WASHER, FLAT, NO 4	
17	6		2037-5008		PLUG, COAXIAL	26805
18	4		MS35649-244		NUT, PLAIN, 4-40	
19	AR		RG-174/U		CABLE, COAX, MIL-C-17	
20	AR		TYPE E22, WHT		WIRE, ELEC, STRD, MIL-W-16878/4	
21	1		106573-003	1	CLAMP	
22	1		MS24618-18		SCR, SELF-TAPPING, NO 6	
23	4		MS51959-15		SCR, FLH, 4-40 X 3/8	
24	AR		E24 WHT		WIRE, ELEC, MIL-W-16878/4	
25	AR		E24 RED		WIRE, ELEC, MIL-W-16878/4	
26	AR		E24 BLK		WIRE, ELEC, MIL-W-16878/4	
27	AR		E24 ORN		WIRE, ELEC, MIL-W-16878/4	
28	REF		531758		CONNECTION DIAGRAM	

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

SIZE	CODE IDENT NO.		REV
A	91417	PL 528535	

SCALE | SHEET 104

ITEM	QTY PER ASSY LEVEL	DWG SIZE	PART OR IDENTIFYING NO.	MP	NOMENCLATURE OR DESCRIPTION	CODE IDENT
1	1		528531G1		CHASSIS	
[illegible]	1		528532G7		PANEL, FRONT	
3	1		115234-003	1	AMMETER, M1	
[illegible]	1		528761G7		MATCHED FILTER ASSEMBLY, A1	
5	1		528762G7		PHASE LOCK LOOP ASSEMBLY, A2	
[illegible]	1		104215-026	1	LAMP, CARTRIDGE, DS1	
[illegible]	1		104216-001	1	CLIP, SPRING TENSION	
8	1		104220-001	1	SWITCH, TOGGLE, SPDT, S1	
9	1		17-90003-1		CONNECTOR, P2	74868
10	1		17-90177-1		CONNECTOR, P1	74868
11	10		17-1132-01		CONTACT PIN, COAX	74868
12	1		Q-032-1M		SOCKET, LAMP	03797
13	12		MS51957-14		SCR, PNH, 4-40 X 3/8	
14	4		MS51957-15		SCR, PNH, 4-40 X 5/16	
15	18		MS35338-135		WASHER, LOCK, NO 4	
16	18		MS15795-804		WASHER, FLAT, NO 4	
17	6		2037-5003		PLUG, COAXIAL	26805
18	4		MS35649-244		NUT, PLAIN, 4-40	
19	AR		RG-174/U		CABLE, COAX, MIL-C-17	
20	AR		TYPE E22, WHT		WIRE, ELEC, STRD, MIL-W-16878/4	
21	1		105573-003	1	CLAMP	
22	1		MS24618-18		SCR, SELF-TAPPING, NO 6	
23	4		MS51959-15		SCR, FLH, 4-40 X 3/8	
24	AR		E24 WHT		WIRE, ELEC, MIL-W-16878/4	
25	AR		E24 RED		WIRE, ELEC, MIL-W-16878/4	
26	AR		E24 BLK		WIRE, ELEC, MIL-W-16878/4	
27	AR		E24 ORN		WIRE, ELEC, MIL-W-16878/4	
28	REF		531758		CONNECTION DIAGRAM	

	SIZE	CODE IDENT NO.		REV
RADIATION INCORPORATED SUBSIDIARY OF HARRIS INTERTYPE CORPORATION, MELBOURNE, FLORIDA	A	91417	PL 528535 105	
	SCALE			SHEET

APPLICATION		
DASH NO	NEXT ASSY	USED ON
G1-4	528535	6754
G5-7	528535	6803-2002

REVISIONS					
LTR	DESCRIPTION			DATE	APPROVED
	CHG BY	CHK BY	ECO NO.		

ENGRG DEV

REVISION INDEX																													
	SHEET	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15													
	REV																												

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE APPLIED FINISH TOLERANCES
2 PLACE ± 3 PLACE ± ANGLES ±

CONTRACT NO.

DR BY B. Ray 5/28/71 CHK BY

ENGINEER

PROJECT ENGINEER Joel Pacetta 10/5/71

APPROVAL

APPROVAL

106

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

TITLE

PARTS LIST -
PHASE LOCKED LOOP ASSY

SIZE	CODE IDENT NO.		REV
A	91417	PL 528762	

SCALE NONE SHEET 1 OF 1

U. S. BLUEPRINT PAPER CO. CLEANPRINT 1000H

ITEM	QTY PER ASSY LEVEL G1	DWG SIZE	PART OR IDENTIFYING NO.	MP	NOMENCLATURE OR DESCRIPTION CODE IDENT
1	15		CK06BX104K		CAPACITOR, FXD, C1,2,10,11,13,12,19,20,16,14,21,24,18
	3		CSR13G475KL		CAPACITOR, FXD, C23,4,13
	1		MC1026P		INTEGRATED CIRCUIT, DUAL CLK DRV MOTOROLA, Z2
4	1		MC1034P		INTEGRATED CIRCUIT, D FLIP FLOP, MOTOROLA, Z1
	1		RA-2909		INTEGRATED CIRCUIT, OPNL AMP, HARRIS, AR1
	1		RCR07G101JS		RES, FXD, R10
			RCR07G102JS		RES, FXD, R32
8	4		RCR07G103JS		RES, FXD, R26,22,24,13
9	2		RCR07G131JS		RES, FXD, R31, R34
10	3		RCR07G160JS		RES, FXD, R36,37,38
11	1		RCR07G204JS		RES, FXD, R21
12	1		RCR07G271JS		RES, FXD, R30
13	1		RCR07G331JS		RES, FXD, R23
14	1		RCR07G391JS		RES, FXD, R1
15	1		RCR07G470JS		RES, FXD, R2
16	2		RCR07G621JS		RES, FXD, R28,33
17	2		RCR07G820JS		RES, FXD, R27,29
18	1		RCR20G102JS		RES, FXD, R3
19	1		RN60C1000F		RES, FXD, R12
20	2		RN60C2210F		RES, FXD, R6,R18
21	2		RN60C2740F		RES, FXD, R5,R17
22	2		RN60C2941F		RES, FXD, R11,R14
23					
24	1		U5B7741393		INTEGRATED CIRCUIT, OPNL AMP, FAIRCHILD, AR-2
25	1		U5F7711393		INTEGRATED CIRCUIT, DUAL COMP, FAIRCHILD AR-2
26	4		VK-200-20-4B		BEAD, FERRX CUBE, L1,9,11,6
27	1		1N4001		DIODE, RECT, CR7
28	1		1N746A		DIODE, CR2
29	1		1N757A		DIODE, CR6
30	4		1N914		DIODE, CR3,4,1,8
31	1		10534B		MIXER, DOUBLE BALANCED, HP, A1
32	1		2N3960		TRANSISTOR, Q1
33	6		2066-1322		CONNECTOR, AMERICON, J1,2,3,4,5,6
	1		3252X-1-103		POTENTIOMETER, BOURNS, R35
	2		412-12		RELAY, DPDT, TELEDYNE, K1, K2

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

SIZE	CODE IDENT NO.	25 MB	REV
A	91417	PL 528762	

SCALE 107 SHEET 2

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G1	DWG. SIZE	PART OR IDENTIFYING NO.	MP	NOMENCLATURE OR DESCRIPTION	CODE IDENT
36	1		2N2904		TRANSISTOR, Q1	
	1		RCR07G512JS		RES, FXD, R15	
38	1		RCR20G121JS		RES, FXD, R20	
39	2		CM05FD121J03		CAPACITOR, FXD, C9, C15	
40	1		CN0450		CAPACITOR, FXD, C5	
41	1		LF4W020		INDUCTOR, FXD, JFD, L7	
42	4		LF4W040		INDUCTOR, FXD, JFD, L2, 4	
43	2		RCR07G152JS		RES, FXD, R19	
44	1		RN60C1471F		RES, FXD, R7	
45	1		RN60C2260F		RES, FXD, R6	
46	2		RN60C2740F		RES, FXD, R5	
47	2		RN60C61R9F		RES, FXDR4, 16	
48	1		RN60C8451F		RES, FXD, R9	
49	1		RN60C86R6F		RES, FXD, R8	
50	1		Y367L 45MHz		OSCILLATOR, GREENRAY, Y1	
51	1		192P4729R8		CAPACITOR, FXD, C8	
52	1		192P82192		CAPACITOR, FXD, C6	
53	1		192P8239R8		CAPACITOR, FXD, C7	
54	30 FT		RG-174/U		CABLE, COAX	
55	REF		CM528460-2		CIRCUIT MASTER	
56	REF		417305		SCHEMATIC DIAGRAM	

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS INTERTYPE CORPORATION, MELBOURNE, FLORIDA

SIZE	CODE IDENT NO.		REV
A	91417	PL 528762	

SCALE

SHEET 3

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G2	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION	CODE IDENT
	15		CK06BX104K		CAPACITOR, FXD C1-9,10-12,14,16-22,24	
	3		CSR13G475KL		CAPACITOR, FXD C23,4,13	
3	1		MC1026P		INTEGRATED CIRCUIT, DUAL CLK DRV, MOTOROLA, Z2	
4	1		MC1034P		INTEGRATED CIRCUIT, D FLIP FLOP, MOTOROLA, Z1	
5	1		RA-2909		INTEGRATED CIRCUIT, OPNL AMP, HARRIS, AR1	
6	1		RCR07G101JS		RES, FXD R1	
7	2		RCR07G102JS		RES, FXD R32	
8	3		RCR07G103JS		RES, FXD R26,22,24,13	
9	2		RCR07G131JS		RES, FXD R31,34	
10	3		RCR07G160JS		RES, FXD R36 - 38	
11	1		RCR07G204JS		RES, FXD R21	
12	1		RCR07G271JS		RES, FXD R30	
13	1		RCR07G331JS		RES, FXD R23	
14	1		RCR07G391JS		RES, FXD R1	
15	1		RCR07G470JS		RES, FXD R2	
16	2		RCR07G621JS		RES, FXD R28,33	
17	2		RCR07G820JS		RES, FXD R27,29	
18	1		RCR20G102JS		RES, FXD R3	
19	1		RN60C1000F		RES, FXD R12	
20	2		RN60C2210F		RES, FXD R6,18	
21	2		RN60C2740F		RES, FXD R5,17	
22	2		RN60C2941F		RES, FXD R11,14	
23						
24	1		U5B7741393		INTEGRATED CIRCUIT, OPNL AMP, FAIRCHILD, AR3	
25	1		U5F7711393		INTEGRATED CIRCUIT, DUAL COMP, FAIRCHILD, AR2	
26	4		VK-200-20-4B		BEAD, FERRX CUBE, L1,9,11,6	
27	1		1N4001		DIODE, RECT CR7	
28	1		1N746A		DIODE CR6	
29	1		1N757A		DIODE CR2	
30	4		1N914		DIODE CR1,3,4,8	
31	1		10534B		MIXER, DOUBLE BALANCED, HP, A1	
32	1		2N3960		TRANSISTOR Q1	
33	6		2066-1322		CONNECTOR, AMERICON, J1 - J6	
	1		3252X-1-103		POTENTIOMETER, BOURNS, R35	
35	2		412-12		RELAY, DPDT, K1,2	

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SIZE	CODE IDENT NO.	15MB	REV
A	91417	PL 528762	

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G2	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION	CODE IDENT
36	1		2N2904		TRANSISTOR, Q1	
	1		RCR20G512JS		RES, FXD	R15
38	1		RCR07G121JS		RES, FXD	R20
39	1		CK14BX223K		CAPACITOR, FXD	C7
40	1		CK15BR224K		CAPACITOR, FXD	C8
41	2		CM05FD121J03		CAPACITOR, FXD	C9,15
42	1		LF4W035		INDUCTOR, FXD	JFD, L7
43	2		LF4W100		INDUCTOR, FXD	JFD, L4,2
44	1		RCR07G911JS		RES, FXD	R19
45	2		RN60C2260F		RES, FXD	R6
46	2		RN60C2740F		RES, FXD	R5
47	1		RN60C4991F		RES, FXD	R9
48	2		RN60C61R9F		RES, FXD	R16,4
49	1		RN60C88R7F		RES, FXD	R8
50	1		RN60C8870F		RES, FXD	R7
51	1		Y367 55 MHz		OSCILLATOR, GREENWAY, Y1	
52	1		192P2229R8		CAPACITOR, FXD	C6
53	30 FT		RG-174/U		CABLE, COAX	
54	REF		CM528460-2		CIRCUIT MASTER	
55	REF		417305		SCHEMATIC DIAGRAM	

RADIATION INCORPORATED
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SIZE	CODE IDENT NO.		REV
A	91417	PL 528762	
SCALE			SHEET

ITEM	QTY PER ASSY LEVEL G3	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION	CODE IDENT
1	15		CK06BX104K		CAPACITOR, FXD C1-3,10-12,14,16-22,24	
	3		CSR13G475KL		CAPACITOR, FXD C23,4,13	
3	1		MC1026P		INTEGRATED CIRCUIT, DUAL CLK DRV, MOTOROLA, Z2	
4	1		MC1034P		INTEGRATED CIRCUIT, D FLIP FLOP, MOTOROLA, Z1	
5	1		RA-2909		INTEGRATED CIRCUIT, OPNL AMP, HARRIS, AR1	
6	1		RCR07G101JS		RES, FXD R10	
7	2		RCR07G102JS		RES, FXD R32	
8	3		RCR07G103JS		RES, FXD R26,22,14,13	
9	2		RCR07G131JS		RES, FXD R31,34	
10	3		RCR07G160JS		RES, FXD R36 - 38	
11	1		RCR07G204JS		RES, FXD R21	
12	1		RCR07G271JS		RES, FXD R30	
13	1		RCR07G331JS		RES, FXD R23	
14	1		RCR07G391JS		RES, FXD R1	
15	1		RCR07G470JS		RES, FXD R2	
16	2		RCR07G621JS		RES, FXD R28,33	
17	2		RCR07G820JS		RES, FXD R27,29	
18	1		RCR20G102JS		RES, FXD R3	
19	1		RN60C1000F		RES, FXD R12	
20	2		RN60C2210F		RES, FXD R6,18	
21	2		RN60C2740F		RES, FXD R5,17	
22	2		RN60C2941F		RES, FXD R11,14	
23						
24	1		U5B7741393		INTEGRATED CIRCUIT, OPNL AMP, FAIRCHILD, AR3	
25	1		U5F7711393		INTEGRATED CIRCUIT, DUAL COMP, FAIRCHILD, AR2	
26	4		VK-200-20-4B		BEAD, FERRX CUBE, L1,9,11,6	
27	1		1N4001		DIODE, RECT CR7	
28	1		1N746A		DIODE CR2	
29	1		1N757A		DIODE CR6	
30	4		1N914		DIODE CR1,3,4,8	
31	1		10534B		MIXER, DOUBLE BALANCED, HP, A1	
32	1		2N3960 - 1		TRANSISTOR Q1	
33	6		2066-1322		CONNECTOR, AMERICON, J1-J6	
34	1		3252X-1-103		POTENTIOMETER, BOURNS, R35	
35	2		412-12		RELAY, DPDT, TELEDYNE, K1,2	

RADIATION INCORPORATED
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SIZE	CODE IDENT NO.		REV
A	91417	3,75MB PL 528762 ///	

SCALE SHEET

ITEM	QTY PER ASSY LEVEL G3	DWG SIZE	PART OR IDENTIFYING NO.	MP	NOMENCLATURE OR DESCRIPTION	CODE IDENT
36	1		2N2904		TRANSISTOR	Q1
	1		RCR07G512JS		RES, FXD	R15
38	1		RCR20G121JS		RES, FXD	R20
39	1		CK14BR563K		CAPACITOR, FXD	C7
40	1		CK15BR334K		CAPACITOR, FXD	C8
41	2		LF4W040		INDUCTOR, FXD	JFD, L2, 4
	1		RCR07G221JS		RES, FXD	R19
43	1		RN60H1272FM		RES, FXD	R9
44	2		RN60C2261F		RES, FXD	R6
45	2		RN60C2741F		RES, FXD	R5
46	2		RN60C51R1F		RES, FXD	R4, 16
47	1		X-80		DELAY LINE	50 OHMS, 118ms ±5%, EL RAD
48	1		X-80		DELAY LINE	50 OHMS, 59ns ±5%, EL RAD
49	1		RN60C2231B		RES, FXD	R7
50	1		RN60D2210FM		RES, FXD	R8
51	1		WEE-WEE-1.5		INDUCTOR, FXD, NYTRONICS, L7	
52	1		Y367 66,25MHz		OSCILLATOR, GREENWAY, Y1	
53	1		192P3929R8		CAPACITOR, FXD	C6
54	2		192P4729R8		CAPACITOR, FXD	C5
55	REF		CM528460-2		CIRCUIT MASTER	
56	REF		417305		SCHEMATIC DIAGRAM	

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SIZE	CODE IDENT NO.		REV
A	91417	3.75 MB PL 528762 112	
SCALE		SHEET 7	

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G4	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION	CODE IDENT
1	15		CK06BX104K		CAPACITOR, FXD C1-3,10-12,14,16-22,24	
	3		CSR13G475KL		CAPACITOR, FXD C23,4,13	
3	1		MC1026P		INTEGRATED CIRCUIT, DUAL CLK DRV, MOTOROLA, Z2	
4	1		MC1034P		INTEGRATED CIRCUIT, FLIP FLOP, MOTOROLA, Z1	
5	1		RA-2909		INTEGRATED CIRCUIT, OPNL AMP, HARRIS, AR1	
	1		RCR07G101JS		RES, FXD R10	
	2		RCR07G102JS		RES, FXD R32	
8	3		RCR07G103JS		RES, FXD R26,22,14,13	
9	2		RCR07G131JS		RES, FXD R31,34	
10	3		RCR07G160JS		RES, FXD R36 - 38	
11	1		RCR07G204JS		RES, FXD R21	
12	1		RCR07G271JS		RES, FXD R30	
13	1		RCR07G331JS		RES, FXD R23	
14	1		RCR07G391JS		RES, FXD R1	
15	1		RCR07G470JS		RES, FXD R2	
16	2		RCR07G621JS		RES, FXD R28,33	
17	2		RCR07G820JS		RES, FXD R27,29	
18	1		RCR20G102JS		RES, FXD R3	
19	1		RN60C1000F		RES, FXD R12	
20	2		RN60C2210F		RES, FXD R6,18	
21	2		RN60C2740F		RES, FXD R5,17	
22	2		RN60C2941F		RES, FXD R11,14	
23						
24	1		U5B7741393		INTEGRATED CIRCUIT, OPNL AMP, FAIRCHILD, AR3	
25	1		U5F7711393		INTEGRATED CIRCUIT, DUAL COMP, FAIRCHILD, AR2	
26	4		VK-200-20-4B		BEAD, FERRX CUBE L1,9,11,6	
27	1		1N4001		DIODE, RECT CR7	
28	1		1N746A		DIODE CR2	
29	1		1N757A		DIODE CR6	
30	4		1N914		DIODE CR1,3,4,8	
31	1		10534B		MIXER, DOUBLE BALANCED, HP, A1	
32	1		2N3960		TRANSISTOR Q1	
33	6		2066-1322		CONNECTOR, AMERICON, J1-J6	
34	1		3252X-1-103		POETNTIOMETER, BOURNS, R35	
35	2		412-12		RELAY, DPDT, TELEDYNE, K1,2	

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SIZE	CODE IDENT NO.		REV
A	91417	1,5 MB PL 528762 113	

SCALE

SHEET 8

ITEM	QTY PER ASSY LEVEL G4	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION	CODE IDENT
36	1		2N2904		TRANSISTOR	Q1
	1		RCR07G512JS		RES, FXD	R15
38	1		RCR20G121JS		RES, FXD	R20
39	2		CK15BR105M		CAPACITOR, FXD	C7
40	1		RCR07G910JS		RES, FXD	R19
41	2		RN60C2261F		RES, FXD	R6
42	2		RN60C2741F		RES, FXD	R5
43	2		RN60C51R1F		RES, FXD	R4
44	1		RN60C5111F		RES, FXD	R9
45	1		RN60C86R6F		RES, FXD	R8
46	1		RN60C8660F		RES, FXD	R7
47	2		WEE-WEE-2.2		INDUCTOR, FXD, NYTRONICS, L2, 4	
48	1		WEE-WEE-3.3		INDUCTOR, FXD, NYTRONICS, L7	
49	1		Y367 68.5 MHz		OSCILLATOR, GREENWAY, Y1	
50	1		192P2739R8		CAPACITOR, FXD	C6
51	2		192P4729R8		CAPACITOR, FXD	C5
52	1		X-73		DELAY LINE	50 OHMS, 270 ns ±5%, EL RAD
53	1		X-80		DELAY LINE	50 OHMS, 135 ns ±5%, EL RAD
54	REF		CM528460-2		CIRCUIT MASTER	
55	REF		417305		SCHEMATIC DIAGRAM	

RADIATION INCORPORATED
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SIZE	CODE IDENT NO.		REV
A	91417	1.5MB PL 528762 114	
SCALE			SHEET 9

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G5	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION	CODE IDENT
1	15		CK06BX104K		CAPACITOR, FXD	C1-3,10-12,14,16-22,24
2	3		CSR13G475KL		CAPACITOR, FXD	C23,4,13
3	1		MC1026P		INTEGRATED CIRCUIT, DUAL CLK DRV, MOTOROLA, Z2	
4	1		MC1034P		INTEGRATED CIRCUIT, D FLIP FLOP, MOTOROLA, Z1	
5	1		RA-2909		INTEGRATED CIRCUIT, OPNL AMP, HARRIS, AR1	
6	1		RCR07G101JS		RES FXD	R10
7	1		RCR07G102JS		RES, FXD	R32
8	4		RCR07G103JS		RES, FXD	R26,22,24,13
9	2		RCR07G131JS		RES, FXD	R31,34
10	3		RCR07G160JS		RES, FXD	R36 - 38
11	1		RCR07G204JS		RES, FXD	R21
12	1		RCR07G271JS		RES, FXD	R30
13						
14	1		RCR07G391JS		RES, FXD	R1
15	1		RCR07G470JS		RES, FXD	R2
16	2		RCR07G621JS		RES, FXD	R28,33
17	2		RCR07G820JS		RES, FXD	R27,29
18	1		RCR20G102JS		RES, FXD	R3
19						
20	2		RN60C2210F		RES, FXD	R6,18
21	2		RN60C2740F		RES, FXD	R5,17
22	2		RN60C2941F		RES, FXD	R11,14
23	2		RN60C61R9F		RES, FXD	R4,16
24	1		U5B7741393		INTEGRATED CIRCUIT, OPNL AMP, FAIRCHILD, AR3	
25	1		U5F7711393		INTEGRATED CIRCUIT, DUAL COMP, FAIRCHILD, AR2	
26	4		VK-200-20-4B		BEAD, FERRX CUBE	L1,9,11,6
27	1		1N4001		DIODE, RECT	CR7
28	1		1N757A		DIODE	CR6
29	1		1N746A		DIODE	CR2
30	4		1N914		DIODE	CR3,4,1,8
31	1		10534B		MIXER, DOUBLE BALANCED, HP, A1	
32	1		2N3960		TRANSISTOR	Q1
33	6		2066-1322		CONNECTOR, AMERICON, J1 - J6	
34	1		3252X-1-103		POTENTIOMETER, BOURNS, R35	
35	2		412-12		RELAY, DPDT, TELEDYNE, K1,2	

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

SIZE	CODE IDENT NO.		REV
A	91417	18MB PL 528762 115	

SCALE | SHEET 10

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G5	DWG SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION	CODE IDENT
9	4		CM15ED101JN3		CAP, FXD	C9,1
39	1		192P1049R8		CAP, FXD	C5
40	1		192P6839R8		CAP, FXD	C6
41	2		LF4W080		INDUCTOR, FXD	JFD L6,5
42	1		LF4W030		INDUCTOR, FXD	JFD L7
43						
44						
45						
46	1		RN60C6041F		RES, FXD	R9
47	1		Y367 52 MHZ		OSCILLATOR, GREENWAY, Y1	
48	30 FT		RG-174/U		CABLE, COAX	
49	REF		CM528460 - 3		CIRCUIT MASTER	
50	REF		417305		SCHEMATIC DIAGRAM	
51	1		RCR07G512JS		RES, FXD, COMP, R15	
52	1		RN60C1000F		RES, FXD, R12	
53	1		2N2904		TRANSISTOR, Q1	
54	1		RCR20G121JS		RES, FXD, COMP, R20	
55	1		RCR07G183JS		RES, COMP, R23	
56	1		RCR07G112JS		RES, COMP, R19	
57	1		192P4729R8		CAP, FXD, C8	SPARE
58	1		192P2029R8		CAP, FXD, C7	SPARE
59	1		RN60C5360F		RES, FXD, R8	
60	1		RN60C1070F		RES, FXD, R7	

RADIATION INCORPORATED	SIZE	CODE IDENT NO.	18MB	REV
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA	A	91417	PL 528762	
	SCALE		116	SHEET 11

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G6	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION	CODE IDENT
1	15		CK06BX104K		CAPACITOR, FXD C1-3,10-12,14,16-22,24	
[illegible]	3		CSR13G475KL		CAPACITOR, FXD C23,4,13	
3	1		MC1026P		INTEGRATED CIRCUIT, DUAL CLK DRV, MOTOROLA Z2	
4	1		MC1034P		INTEGRATED CIRCUIT, D FLIP FLOP, MOTOROLA Z1	
	1		RA-2909		INTEGRATED CIRCUIT, OPNL AMP, HARRIS AR1	
6	2		RCR07G101JS		RES, FXD R10	
	1		RCR07G102JS		RES, FXD R32	
[illegible]	4		RCR07G103JS		RES, FXD R26,22,14,1[illegible]	
9	2		RCR07G131JS		RES, FXD R31,34	
10	[illegible]		RCR07G160JS		RES, FXD R36 - 38	
11	1		RCR07G204JS		RES, FXD R21	
1[illegible]	1		RCR07G271JS		RES, FXD R30	
1[illegible]						
14	1		RCR07G391JS		RES, FXD R1	
1[illegible]	1		RCR07G470JS		RES, FXD R[illegible]	
16	2		RCR07G621JS		RES, FXD R28,33	
1[illegible]	[illegible]		RCR07G820JS		RES, FXD R27,29	
18	1		RCR20G102JS		RES, FXD R3	
19						
20	2		RN60C2210F		RES, FXD R6,18	
[illegible]1	[illegible]		RN60C2740F		RES, FXD R5,17	
[illegible]	[illegible]		RN60C2941F		RES, FXD R11,14	
[illegible]	[illegible]		RN60C61R9F		RES, FXD R4,16	
[illegible]4	1		U5B7741393		INTEGRATED CIRCUIT, OPNL AMP, FAIRCHILD AR3	
2[illegible]	1		U5F7711393		INTEGRATED CIRCUIT, DUAL COMP, FAIRCHILD, AR2	
[illegible]	[illegible]		VK-200-20-4B		BEAD, FERRX CUBE L1,9,11,[illegible]	
27	1		1N4001		DIODE, RECT CR7	
28	1		1N4371		DIODE CR6	
29	1		1N757A		DIODE CR2	
[illegible]0	[illegible]		1N914		DIODE CR1,3,4,8	
[illegible]1	1		10534B		MIXER, DOUBLE BALANCED, HP, A1	
[illegible]	1		2N3960		TRANSISTOR Q1	
[illegible]	[illegible]		2046-1322		CONNECTOR, AMERICON, J1-J6	
[illegible]	1		3252X-1-103		POTENTIOMETER, BOURNS, R35	
[illegible]	2		412-12		RELAY, DPDT, TELEDYNE, K1, 2	

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	SIZE	CODE IDENT NO.		REV
RADIATION INCORPORATED SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA	A	91417	2744B PL [illegible] 117	
	SCALE		SHEET 12	

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G6	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION CODE IDENT
39	2		CM15FD101 N3		CAP, FXD C9, 1
40					
1	1		LF4W04		INDUCTOR, FXD IFD, L
			LF4W035		INDUCOTR, FXD IFD, L3,
43					
44					
46	1		Y367L 43MHz		OSCILLATOR, GREENWAY, Y1
48	1		192P5639R8		CAP, FXD C5
48	1		192P1839R8		CAP, FXD C6
	30 FT		RG-174/U		CABLE, COAX
50	REF		CM528400-3		CIRCUIT MASTER
51	REF		417305		SCHEMATIC DIAGRAM
52	1		RCR07G512JS		RES, FXD, COMP, R15
53	1		RN60C1000F		RES, FXD, R12
54	1		2N2904		TRANSISTOR, Q1
55	1		RCR20G121JS		RES, FXD, COMP, R20
56	1		RCR07G205JS		RES, FXD, COMP, R23
57	1		RCR07G183JS		RES, FXD, COMP, R19
58	1		192P3329R8		CAP, FXD, C8
59	1		RN60C7870F		RES, FXD, R8

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SIZE	CODE IDENT NO.		REV
A	91417	27MB PL 528752 118	
SCALE		SHEET 1	

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G7	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION CODE IDENT
1	15		CK06BX104K		CAPACITOR, FXD C1-3,10-12,14,16-22,24
[illegible]	3		CSR13G475KL		CAPACITOR, FXD C4,13,23
[illegible]	1		MC1026P		INTEGRATED CIRCUIT, DUAL CLK DRV, MOTOROLA Z
4	1		MC1034P		INTEGRATED CIRCUIT, D FLIP FLOPMOTOROLA,Z1
[illegible]	1		RA-2909		INTEGRATED CIRCUIT, OPNL AMP, HARRIS AR1
[illegible]	1		RCR07G101JS		RES, FXD R10
[illegible]	[illegible]		RCR07G102JS		RES, FXD R32,[illegible]
[illegible]	4		RCR07G103JS		RES, FXD R22,24,26,[illegible]
[illegible]	2		RCR07G131JS		RES, FXD R31,[illegible]
10	3		RCR07G160JS		RES, FXD R36,37,38
11	1		RCR07G204JS		RES, FXD R21
[illegible]	1		RCR07G271JS		RES, FXD R20
[illegible]					
14	1		RCR07G391JS		RES, FXD R1
15	1		RCR07G470JS		RES, FXD R2
16	[illegible]		RCR07G821JS		RES, FXD R28,35
17	2		RCR07G820JS		RES, FXD R27,29
18	1		RCR20G102JS		RES, FXD R3
19	1		RN60C1000F		RES, FXD R12
20			RN60C2210F		RES, FXD R6,18
21	[illegible]		RN60C2740F		RES, FXD R5,17
22	2		RN60C2941F		RES, FXD R11,14
23	2		RN60C61R9F		RES, FXD R4,16
24	1		USB7741392		INTEGRATED CIRCUIT, OPNL AMP, FAIRCHILD AR
25	1		USF7711393		INTEGRATED CIRCUIT, DUAL COMP, FAIRCHILD AR2
26	4		VK-200-20-4B		BEAD, FERRX CUBE L1,6,9,11
[illegible]	1		1N4001		DIODE, RECT CR7
[illegible]	1		1N746A		DIODE CR2
[illegible]	1		1N757A		DIODE CR5
30	4		1N914		DIODE CR1,3,4,8
31	1		10534B		MIXER, DOUBLE BALANCED, HP, A1
[illegible]	1		2N3960		TRANSISTOR Q1
33	6		2066-1322		CONNECTOR, AMERICON J1 - J6
[illegible]	1		3252X-1-103		POTENTIOMETER, BOURNS R35
[illegible]	2		412-12		RELAY, DPDT, TELEDYNE, K1,2

U. S. BLUEPRINT PAPER CO. CLEARPRINT 1000H

ITEM	QTY PER ASSY LEVEL G7	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION	CODE IDENT
36	1		2N2904		TRANSISTOR	Q1
	1		RCR07G512JS		RES, FXD	R15
38	1		RCR20G121JS		RES, FXD	R20
39	2		192P15292		CAPACITOR, FXD	C5,6
40	2		192P1549R8		CAPACITOR, FXD	C7,8
41	1		RN60C8060F		RES, FXD	R19
42	1		RN60C4531F		RES, FXD	R9
43	1		RN60C7870F		RES, FXD	R7
44	1		RN60C78R7F		RES, FXD	R8
45	2		192P12292		CAPACITOR, FXD	C9,15
46	2		LF4W012		INDUCTOR	L2,4, JFD
47	1		LF4W040		INDUCTOR	L7, JFD
48	1		Y-367 56.5MHz		OSCILLATOR, GREENWAY, Y1	
49						
50						
51						
52	REF		CM528460-3		CIRCUIT MASTER	
53	REF		417305		SCHEMATIC DIAGRAM	
54						

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

SIZE	CODE IDENT NO.	13.5 MB	REV
A	91417	PL 528762	
		10	

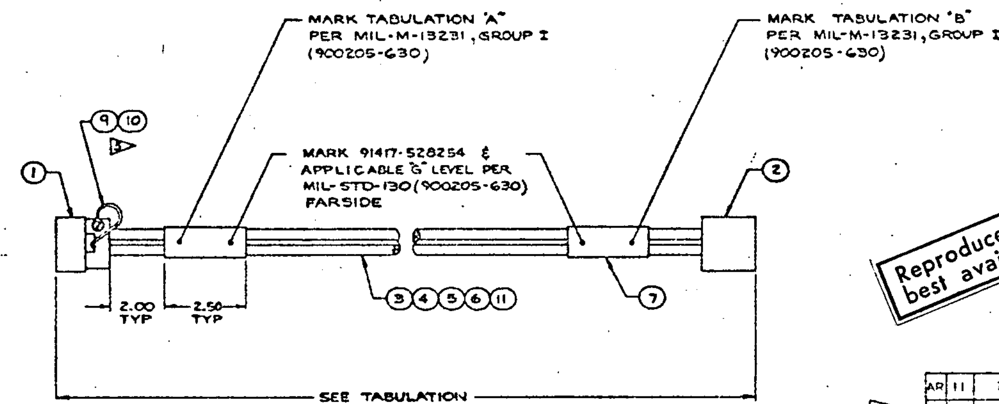
SCALE | SHEET 1

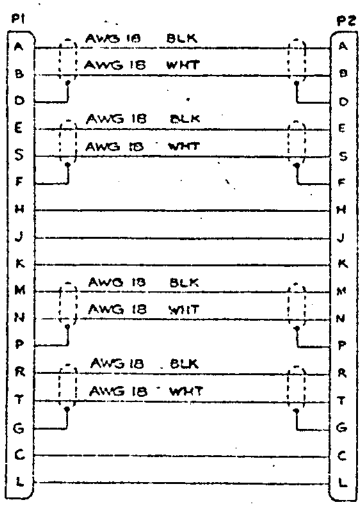
PART NO	TABULATION "A"	TABULATION "B"	LENGTH
528254G1	[illegible]	[illegible]	18' ± 6"
528254G2	[illegible]	[illegible]	19' ± 6"

REVISIONS

NOTES:

1. VENDOR ITEM; SEE SOURCE CONTROL OR SPECIFICATION CONTROL DWG.
2. PARTIAL REFERENCE DESIGNATIONS ARE SHOWN; FOR COMPLETE DESIGNATION PREFIX WITH UNIT NO OR SUBASSEMBLY DESIGNATIONS.
3. PARENTHETICAL IDENTITIES ARE FOR REFERENCE ONLY.
4. ALL WIRING TO BE AWG NO.18 WHT UNLESS OTHERWISE SPECIFIED
5. SOLDER WIRE TO ZIPPERTUBING SHIELD USING ITEM 8 & TERMINATE TO CONN STRAIN RELIEF CLAMP.
6. VENDOR FOR WIRE RAYCHEM CO. MENLO PARK, CALIF.





WIRING DIAGRAM

QTY REQD	ITEM NO	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION
AR	11	ZTN	SEALER ZIPPERTUBING CO. LA CALIF
AR	10	44/2111-20-5	WIRE ELEC AWG NO. 20 GRN
1	9	MS25036-102	TERMINAL LUG, CRIMP
AR	8	SN60WRMAP3	SOLDER, PER QQ-S-571
AR	7	850114-095	INSULATION SLEEVING
8	6	104245-006	SPLICE, CONDUCTOR
AR	5	ZT2-0675-SHX2SP40-B-0L	INSULATION, SLEEVING, ELEC ZIPPERTUBING CO LA CALIF
AR	4	44/2111-18-9	WIRE, ELEC, AWG 18, WHT
AR	3	44/2115-0/3-9	WIRE, ELEC, SHIELDED TW PR
1	2	MS3106E-20-29P	CONN, PLUG, ELEC, P2
1	1	MS3106E-20-29S	CONN, PLUG, ELEC, P1

LIST OF MATERIALS OR PARTS LIST

ENGRG DEV

NEXT ASSY	USED ON
123447	1666

APPLICATION

5-12-76

5-14-76

RADIATION INCORPORATED

SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

CABLE ASSEMBLY

D 91417 528254

528254

111

APPLICATION			REVISIONS				
ORDER NO.	NEXT ASSY	USED ON	LTR	DESCRIPTION			DATE	APPROVED
				CHG BY	CHK BY	ECO NO.		
G1	612795	6803-2002						

ENGRG DEV

REVISION INDEX	SHEET	1	2	3
	REV			

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE APPLIED FINISH TOLERANCES

2 PLACE ± 3 PLACE ± ANGLES ±

CONTRACT NO.

DR BY JRay 5/17/71 CHK BY

ENGINEER

PROJECT ENGINEER 5/17/71

APPROVAL

APPROVAL

RADIATION INCORPORATED

SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

TITLE

PARTS LIST,
DECISION UNIT

SIZE	CODE IDENT NO.		REV
A	91417	PL528764	

SCALE NONE 1/2 SHEET 1 OF 3

ITEM	QTY PER ASSY LEVEL 1	2	3	4	5	DWG SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION
1	*						ATC-200-B-104-Z-M-50		CAPACITOR, C17,14,18,7,10,11,4,1 AMER TECH CER.
2	19						CK06BX104K		CAP. FXD. CER. C3,2,8,5,6,9,15,21,13,16,22,20,1[illegible] 31,12,30,26,27
3	1						CM15FD201J03		CAP, FXD. MICA, C27
4	3						CSR13G475M		CAP. FXD. TANT, C25,24,29
5	19						K5-0001-00-3B		BEAD FERRX CUBE, L1 - L18,L20
6	3						MC1026P		IC DL CLCK DRVR, MOTOROLA, Z4,1,5
7	3						MC1034P		IC D FLIP FLOP, Z2,3,6
8	6						MMT3960A		TRANSISTOR, Q2,10,5,6,1,2
9	1						RCR07G100JS		RES. FXD. COMP, R54
10	2						RCR07G101JS		RES. FXD, COMP, R32,19
11	2						RCR07G102JS		RES. FXD. COMP, R44,45
12	2						RCR07G131JS		RES, FXD. COMP, R49,51
13	2						RCR07G182JS		RES. FXD, COMP, R43,58
14	3						RCR07G200JS		RES, FXD. COMP, R4,14,27
15	2						RCR07G202JS		RES. FXD. COMP, R20,33
16	2						RCR07G272JS		RES, FXD. COMP, R30,17
17	4						RCR07G621JS		RES, FXD, COMP, R48,53,46,47
18	1						RCR07G681JS		RES, FXD. COMP, R40
19	2						RCR07G820JS		RES, FXD, COMP, R50,52
20	1						RCR20G510JS		RES, FXD. COMP, R11
21	6						RC07GF5R1J		RES, FXD. COMP, R25,26,12,13,2,3,
22	2						RG174/U		CABLE COAX,
23	1						RN60C1001F		RES, FXD, FILM, R41
24	3						RN60C1401F		RES. FXD. FILM, R15,5,28
25	3						RN60C4641F		RES, FXD. FILM, R29,16,6
26	2						RN60C51R1F		RES, FXD, FILM, R1, R55A
27	5						RN60C6810F		RES. FXD, FILM, R35,38,23,56,9
28	5						RN60C82R5F		RES, FXD. FILM, R34,39,24,57,10
29	6						RN65C9090F		RES, FXD. FILM, R21,22,37,36,8,7
30	1						U5R7723393		IC REG UA723C, FAIRCHILD, Z7
31	2						VK-200-20-4B		BEAD FERRX CUBE, L19,21
32	2						IN4001		DIODE, CR7,8
33	6						2N4261		TRANSISTOR, PNP, Q11,12,7,8,3,4
34	6						2066-1322		CONNECTOR, AMERICON, J1,2,3,4,5,6

ITEM	QTY PER ASSY LEVEL G	2	3	4	5	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION
	3						3252X-1-102		POTENTIOMETER, BOURNS, R31,38,42
	3						5082-2308		DIODE MTCHD PR, HB, CR5,6,3,4,1,2
	REF						CM528472-1		CIRCUIT MASTER,
	REF						417307		SCHEMATIC DIAG.
	1						RN60C100F		RES, FXD, FILM, R55B

	SIZE	CODE IDENT NO.		REV
RADIATION INCORPORATED SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA	A	91417	PL528764 114	
	SCALE			SHEET 3

APPLICATION		
DASH NO.	NEXT ASSY	USED ON
C1	612795	6803-2002
G2	612795	6754

REVISIONS					
LTR	DESCRIPTION			DATE	APPROVED
	CHG BY	CHK BY	ECO NO.		

ENGRG DEV

REVISION INDEX	SHEET	1	2
	REV		

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE APPLIED FINISH TOLERANCES

2 PLACE ± 3 PLACE ± ANGLES ±

CONTRACT NO.

DR BY J. Ray 5/17/71 CHK BY

ENGINEER

PROJECT ENGINEER

APPROVAL

APPROVAL

RADIATION INCORPORATED

SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

TITLE

PARTS LIST,
MIXER CARD

SIZE	CODE IDENT NO.		REV
A	91417	PL528766	

SCALE NONE | 115 | SHEET 1 OF 2

ITEM	QTY PER ASSY LEVEL 1	2	3	4	5	DWG. SIZE	PART OR IDENTIFYING NO.	M P	NOMENCLATURE OR DESCRIPTION
	1						CD-23		IC OP AMP, DDC
	3						CK06BX104K		CAP, FXD, CER, C3,2,6
4	1						CM15C100J03		CAP, FXD, MICA, C1
5	2						CSR13G475KL		CAP, FXD, TANT, C5,4
	1						RN60C1500F		RES, FXD, FILM, R3
	1						RN60C3010F		RES, FXD, FILM, R1
	1						RN60C75R0F		RES, FXD, FILM, R2
9	2						VK-200-20-4B		BEAD FERRX CUBE, L1,2
0	1						105343		DBL BAL MIXER, HP, A1
11	3						2066-1322		CONNECTOR, AMERICON, J1,2,3
2	1						3252X-1-503		POT, BOURNS, R4
13	1						RCR07G510JS		RES, FXD, COMP, R5
4	REF						CM528765-1		CIRCUIT MASTER
15	REF						417303		SCHEMATIC DIAG.

RADIATION INCORPORATED
SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

SIZE	CODE IDENT NO.		REV
A	91417	PL528766	
SCALE			SHEET 2

116

APPLICATION			REVISIONS					
DASH NO.	NEXT ASSY	USED ON	LTR	DESCRIPTION			DATE	APPROVED
G1	612795	6603-2002		CHG BY	CHK BY	ECO NO.		

ENGRG RFV

REVISION INDEX	SHEET	1	2
	REV		

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE APPLIED FINISH TOLERANCES

2 PLACE	3 PLACE	ANGLES
±	±	±

CONTRACT NO.

DR BY B.Ray 5/28/71 | CHK BY

ENGINEER

PROJECT ENGINEER

APPROVAL

APPROVAL

RADIATION INCORPORATED

SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA

TITLE

PARTS LIST -
MAGNITUDE DETECTOR ASSY

SIZE	CODE IDENT NO.		REV
A	91417	PL 612920	

SCALE NONE | 1/1 | SHEET 1 OF 2

ITEM	QTY PER ASSY LEVEL 1	2	3	4	5	Mfg SIZE	PART OR IDENTIFYING NO.	M *P	NOMENCLATURE OR DESCRIPTION
	12						RC07GF R1F		RES, FXD, R5, R6, X 6
	6						RC07GF?R7J		RES, FXD, R16, R19, R20, R23, R26, R27, R28, R29
	1						RCR07G4?0JS		RES, FXD, R25
4	1						RCR07G??1JS		RES, FXD, R22
	8						RCR07G??1JS		RES, FXD, R15, R17, R18, R21, R24, R30, R31, R32
	12						RN60C?.?71F		RES, FXD, R2, R4 X 6
							RN60C1001F		RES, FXD, R8 X 6
	6						RN60C??R5J		RES, FXD, R9 X 6
9	12						RN60C2491F		RES, FXD, R11, R13 X 6
10	6						RN60C1621F		RES, FXD, R14 X 6
11	6						RN65C6980F		RES, FXD, R12 X 6
12	6						RN65C1781F		RES, FXD, R10 X 6
13									
14	23						CK06BX104K		CAP, FXD, C1 X 6, C2 X 6, C4 X 6, C6, C7, C8, C9, C10
15	6						ATC-200-B-104-Z-P-50		CAP, 0.1 UF, C3 X 6 AMER TECH CERAMICS
16	3						CS13BS475K		CAP, FXD, C5, C11, C12
17	19						VK-200-20-4B		BEAD, L1A, L4ABCEFG, L5ABCEFG, L6, L9, 10, 11, 12, 13 FERROXCUBE
18	18						K5-0001-00-3B		BEAD, L1BCEFG, L3ABCEFG, L2ABCEFG, L8 FERROXCUBE
19	2						2066-1322		CONNECTOR, J1, J2, AMERICON
20	6						5082-2808		DIODE, MTCHD PR, CR1, CR2 HP
21	24						2N3960		TRANSISTORQ2, Q3, Q4, Q5 X 6
22	6						MD3251A		TRANSISTOR, Q1 X 6
23	6						MC1026P		INTEGRATED CIRCUIT, DUAL CLK DR, Z1, 2, 3, 6, 7, 8 Mote.
24	2						MC1034P		INTEGRATED CIRCUIT, D FLIP-FLOP, Z4, 5 MOTOROLA
25	6						RN60C5491F		RES, FXD, R3 X 6
26	1						RN60C1001F		RES, FXD, R7A
27	1						3252W-1-501		RES, VAR, R7A-
28	REF						CM612919-1		CIRCUIT MASTER
29	REF						417309		SCHEMATIC DIAGRAM
30	6						RN60D53R6F		RES, FXD, R7B, C, D, E, F, G
31	1						RN60C1022F		RES, FXD, R1
32	1						RNR60C9000FM		RES, FXD, FROM R14 to GND
33	1						LF4W200		BEAD, L7 .2UH, JFD

RADIATION INCORPORATED	SIZE	CODE IDENT NO.		REV
A SUBSIDIARY OF HARRIS-INTERTYPE CORPORATION, MELBOURNE, FLORIDA	A	91417	PL 612920	
	SCALE	1/8	SHEET 2	