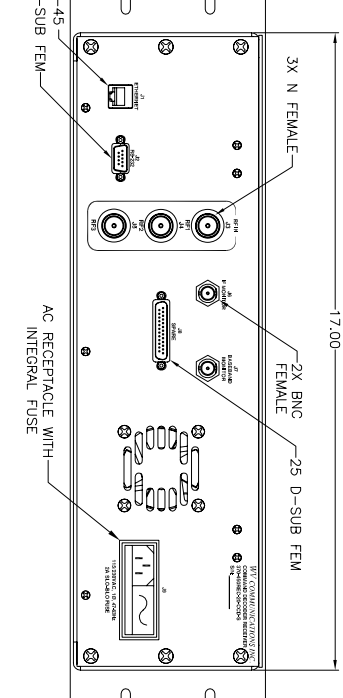
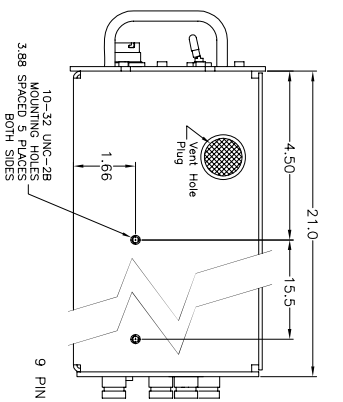
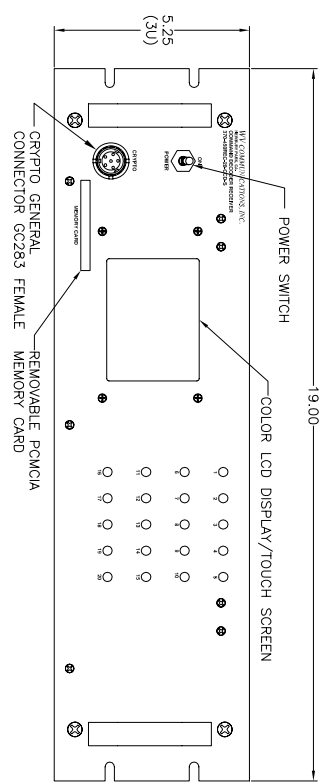


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REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
A	RELEASED		9-27-05	TT

RECEIVER CHARACTERISTICS:
FREQUENCY RANGE: 370-450MHz in 100.0 KHz Steps
FREQUENCY STABILITY: ±0.002% Minimum / Environment 824 Hours
NOISE FIGURE: 6dB Minimum
SPURIOUS & IMAGE REJECTION: 60dB Minimum
LO REBANDWIDTH: 60dBm Minimum
RF INPUT IMPEDANCE: 50 Ohm Nominal
VSWR INPUT: 2:1 Maximum (Ref 50 Ohm)
RF INPUT DYNAMIC RANGE: -104db to +138db
SIGNAL STRENGTH / DEVIATION INDICATION: Via Front Panel LCD & Ethernet
SIGNAL STRENGTH REPORTING ACCURACY: ±2dB Minimum
PEAK DEVIATION REPORTING ACCURACY: ±7% Maximum of Received Carrier Deviation
RF INPUT LEVEL: +13 to -85dbm
500±50KHz
IF 3dB BANDWIDTH: Via Ethernet Command/Monitoring of Tones, RF Communication
IF 60dB BANDWIDTH: Input Power, Tone Deviation, Messaging Status

IRIG DECODER CHARACTERISTICS:
NUMBER OF IRIG TONES: 20 Channels (See Tone Frequency Table)
-2dB TONE BANDWIDTH: 41% Minimum
-20dB TONE BANDWIDTH: 48% Minimum
SIGNAL TANGENTIAL TONE DETECTION: 1 to 6 Tones
DECODER CARRIER DEVIATION RANGE: ±30KHz Nominal / Tone (±20 to ±39KHz Range)
DECODER RESPONSE TIME: 10 Millisecond Maximum
DECODER OUTPUT: Via Front Panel LED & J1 Ethernet
DECODER ACTION: Should Not Latch. A Continuous Signal Should Be Entered While a Tone is Being Received
LED ACTION: Should Not Latch since IRIG Tones Are Continuous, i.e. LEDs Are Illuminated When Tone(s) are Being Received

SECURE DECODER CHARACTERISTICS:
NUMBER OF TONES: 8 Channels (See Table for Precise Tones)
-2dB TONE BANDWIDTH: ±40Hz Minimum
-20dB TONE BANDWIDTH: ±600Hz Minimum
SIGNAL TANGENTIAL TONE DETECTION: 2 Tones
SECURED TONE DETECTION OPTIONAL OUTPUT: Ethernet Via J1
DECODER CARRIER DEVIATION: ±30 to ±43 KHz (for Each Tone)
DECODER RESPONSE TIME: 10 Millisecond Maximum (5 Millisecond Typical)

ENVIRONMENTAL:
OPERATING TEMPERATURE RANGE: 0 to +50°C
OPERATING RELATIVE HUMIDITY: 0-95%
OPERATING ALTITUDE: 0-10,000 Feet
MTRF: 20,000 Hours Minimum
MTRF (MEAN TIME TO REPAIR): 1 Hour Minimum Down to Card Level
AC INPUT: 115/230VAC Auto-Switch at 2 Amp Max Single Phase 47-63Hz
BACK PER MIL-STD-2038

CRYPTO		
PIN LTR.	PIN NAME	REF/RTN
A	N/U	
B	N/U	
C	RECUST	
D	DATA	
E	CLOCK	
F	N/U	

J1 ETHERNET		
PIN NO.	PIN NAME	TX/RX
1	TX+	
2	TX-	
3	RX+	
4	RX-	
5	N/C	
6	N/C	
7	RIS	
8	N/C	

J2 RS-232C		
PIN NO.	PIN NAME	TX/RX
1	N/C	
2	RX	
3	TX	
4	N/C	
5	GND	
6	N/C	
7	RIS	
8	CTS	
9	N/C	

TONE/FREQUENCY TABLE			
IRIG TONE	IRIG FREQUENCY (KHz)	SECURE FREQUENCY (KHz)	IRIG FREQUENCY (KHz)
1	7.50	7.35	25.01
2	8.46	8.40	28.21
3	9.54	9.45	31.83
4	10.76	10.50	35.90
5	12.14	11.55	40.49
6	13.70	12.60	45.68
7	15.45	13.65	51.52
8	17.43	13.45	58.12
9	19.66	--	65.56
10	22.17	--	73.95

Secure Tone

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES ARE:		DIMENSIONS ARE IN INCHES. TOLERANCES ARE:		APPROVALS		DATE		SCALE	
FINISH	DECIMALS	ANGLES	HOLE DIA	DESIGN	G. GODDARD	30AUG04	26SEP05	C	NONE
MACHINED	± 0.005	± 1/64	± 0.005	CHECKED	TONY T.	26SEP05	26SEP05	1 GFQ7	
REMOVE BIRRS	± 0.05 MAX			DRG ENGR	CG	26SEP05	26SEP05		
				PRODUCTION	AM	26SEP05	26SEP05		
900-50166	EDWARDS	USED ON		Q.A.	DB	26SEP05	26SEP05		
APPLICATION		DO NOT SCALE DRAWING							

WV Communications
 1176 Tourmaline Dr.
 Newbury Park, CA

COMMAND DECODER RECEIVER (CDR) CRYPTO I/F
IRIG/SECURE 20/8 TONE 370-450MHz
MODEL: 370-450REC-20-CCD-S