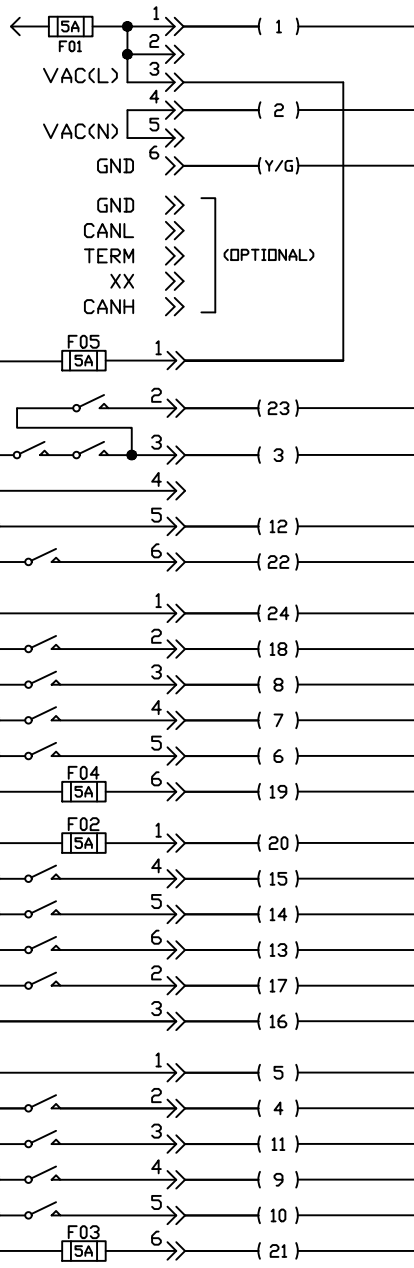


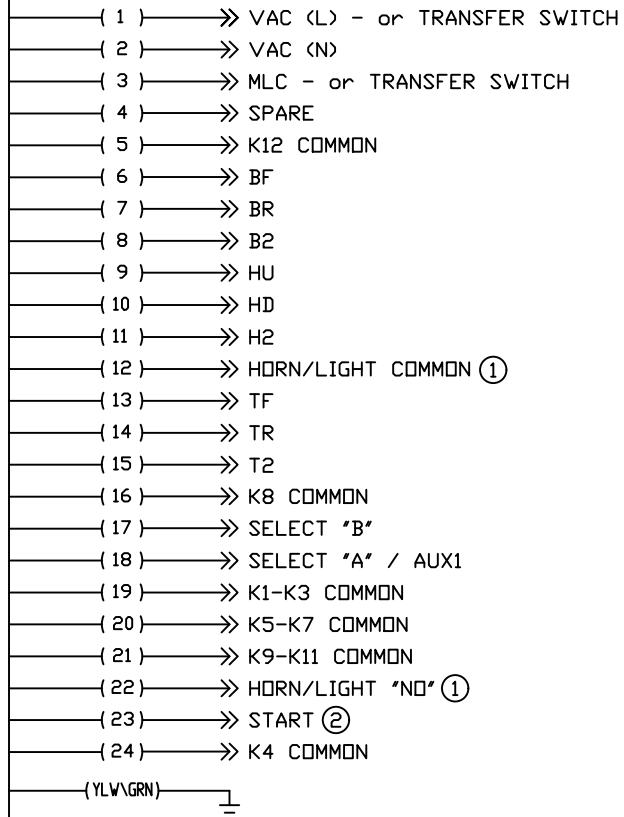
RADIO RECEIVER ENCLOSURE
**110 - 220 VAC
 POWER**



CONTROL CABLE
 6 FEET MAX

CONTACT RATINGS:
 "MLC" RELAY: 8 AMPS @ 250 VAC
 CONTROL RELAYS: 8 AMPS @ 250 VAC

PIGTAIL WIRING
 DESIGNATION



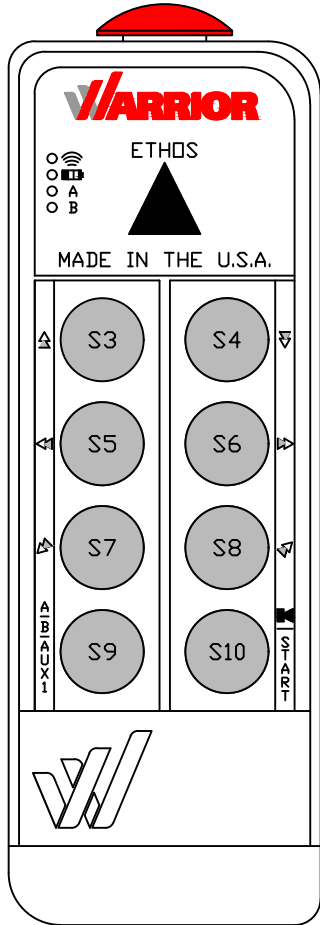
- ① K13 WIRES (12) & (22) MUST BE WIRED TO THE CRANES WARNING DEVICE FOR PROPER OPERATOR WARNING AND ANNUNCIATION DURING THE TX ASSOCIATION PROCESS.
- ② FOR USE IN APPLICATIONS WHERE ISOLATED START CONTROLS ARE REQUIRED. DURING COMMANDED FUNCTIONS THIS WIRE WILL HAVE A 120 VAC POTENTIAL ACROSS IT. TERMINATE WIRE ACCORDINGLY.
- ③ RELAYS ARE SHOWN IN DEFAULT MODE (00), REFER TO PG.5 FOR OPTIONAL RELAY SETTINGS.

WARRIOR ETHOS-HVA

--REVISION--		
REV	DATE	DESCRIPTION
0-0	03.23.21	DRAWING ISSUED FOR PRODUCTION.
1-0		
2-0		
3-0		
4-0		
5-0		

CERVIS		CUSTOMER: CERVIS, INC.
		END USER:
		DESCRIPTION: WARRIOR ETHOS-HVA: WIRING
		DIAGRAM WITH PRE-WIRED PIGTAIL
ENGINEER: GFM	REVIEW: E CJ	DRAWING NO. #A100066
		SHEET: 1 OF 5

STOP  PULL START



HOIST UP

HOIST DWN

TROLLEY REV

TROLLEY FWD

BRIDGE REV

BRIDGE FWD

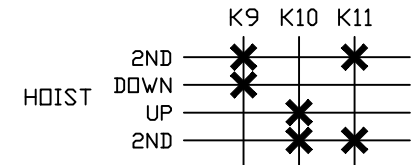
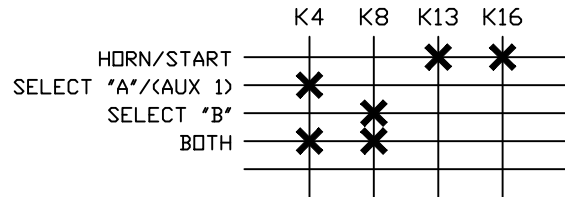
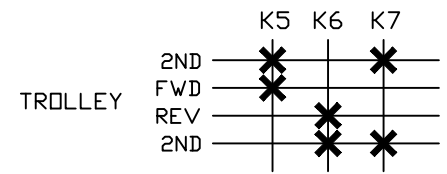
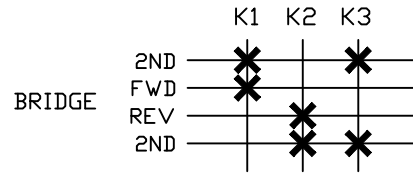
A/B SELECT
AUX 1

HORN/START

TX/RX = COMM
BATT = LOW BAT
A = SEL "A"
B = SEL "B"

1. TX TIMEOUT = 10 MINUTES
2. S3 - S10 ARE 2-STEP PUSHBUTTONS

CERVIS
Model: HHMS-xS9Xxx
Cervis 915 MHz
XXXXX
XXXXX
Input: 1.6-3.2V Rev 0
Serial #



START PROCEDURE:

1. PULL STOP SWITCH UP TO "WAKE" TX.
2. WAIT FOR TX/RX LED TO START FLASHING.
3. PRESS HORN/START PUSHBUTTON (S10) TO ENERGIZE THE "MLC" RELAY.

STOP:

1. PRESS STOP BUTTON TO DE-ENERGIZE "MLC" RELAY & ALL OTHER OUTPUTS.

PROGRAMMING NOTES:

1. FIRST COME - FIRST SERVE SOFTWARE.
2. PRESS A/B SELECT (S9) TO ENERGIZE SELECT RELAYS.
* "A" SELECT (K4), "B" SELECT (K8), BOTH ...
** LED'S WILL INDICATE SELECTION MADE
3. IN CERTAIN MODES S9 ACTS AS AN AUX FUNCTION. REFER TO PG.5 FOR OPTIONAL RELAY SETTINGS.

ASSOCIATION PROCEDURE	
1.	S9/S10: INITIATES MAINTENANCE MODE.
2.	S3/S4: INITIATES ASSOCIATION MODE (HOLD FOR 5 SEC'S)
3.	PRESS S9 TO SEARCH FOR TARGET RX.
4.	PRESS S10 TO SELECT THE TARGET RX.
5.	S3/S4 + S5: CLEARS ID.
** REFER TO MANUAL FOR DETAILS	

CERVIS

CUSTOMER: CERVIS, INC.

END USER:

DESCRIPTION: WARRIOR ETHOS-9XW08-2S-ND

ASSEMBLY #15205504

REV: 0 - 0

DRAWING NO.

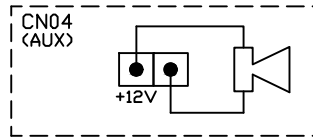
ENGINEER: GFM

REVIEW: ECJ

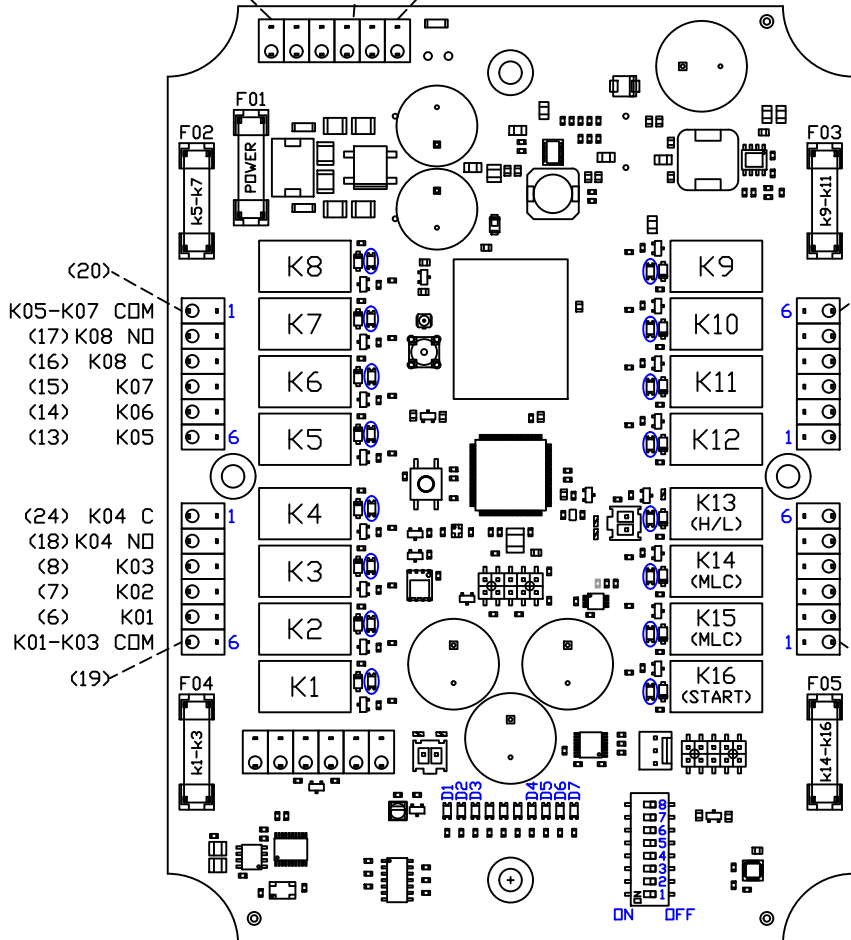
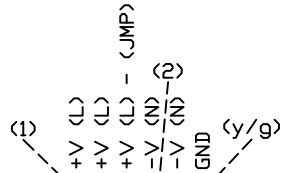
SHEET: 2 OF 5

#A100066

(XX) - PIGTAIL WIRE NUMBERS

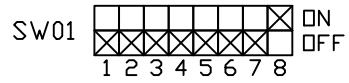


** OPTIONAL BUZZER
#15114311



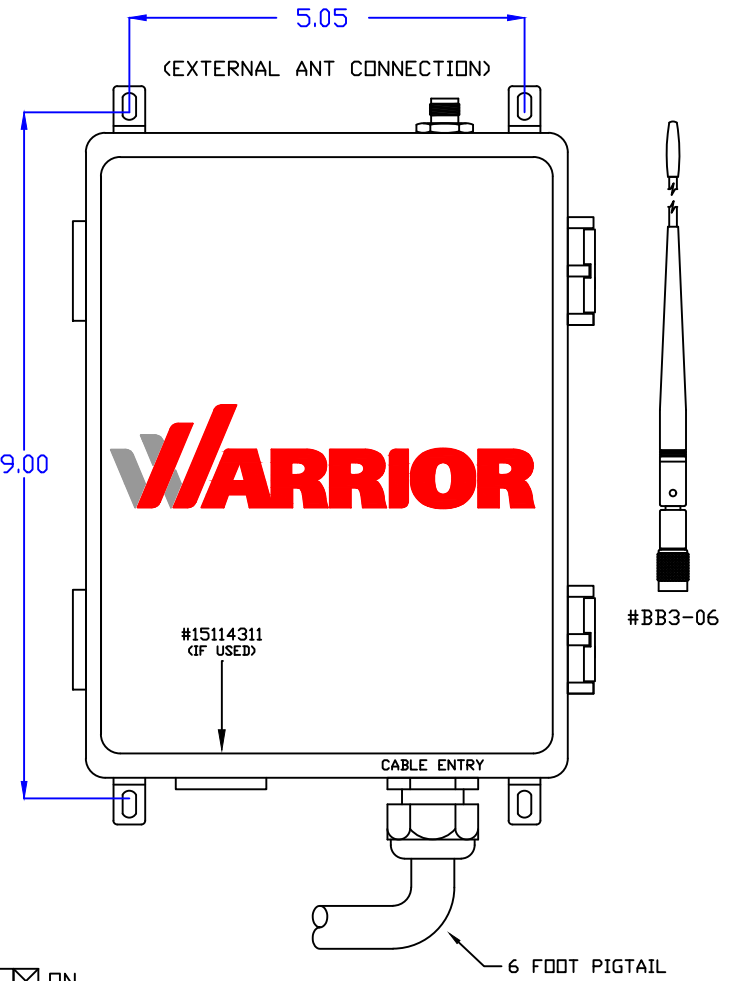
- (20) K05-K07 COM
- (17) K08 NO
- (16) K08 C
- (15) K07
- (14) K06
- (13) K05
- (24) K04 C
- (18) K04 NO
- (8) K03
- (7) K02
- (6) K01
- K01-K03 COM
- (19)

- (21) K09-K11 COM
- K09 (10)
- K10 (9)
- K11 (11)
- K12 NO (4)
- K12 C (5)
- H/L NO (22)
- H/N COM (12)
- H/N COM (N/C)
- MLC NO (3)
- START (23)
- K14 -K16 COM
- (JMP)



DIAGNOSTIC LED'S:

D1	HEALTH/OPERATIONAL
D2	TX
D3	RX
D4	LOGIC 3.3V
D5	SYSTEM 3.3V
D6	RF 3.3V
D7	SYSTEM 12V



1. DIP SWITCHES SHOWN IN DEFAULT MODE (00).
2. DIP SWITCH 8 SHOULD BE 'OFF' WHEN THE SYSTEM IS SHIPPED.

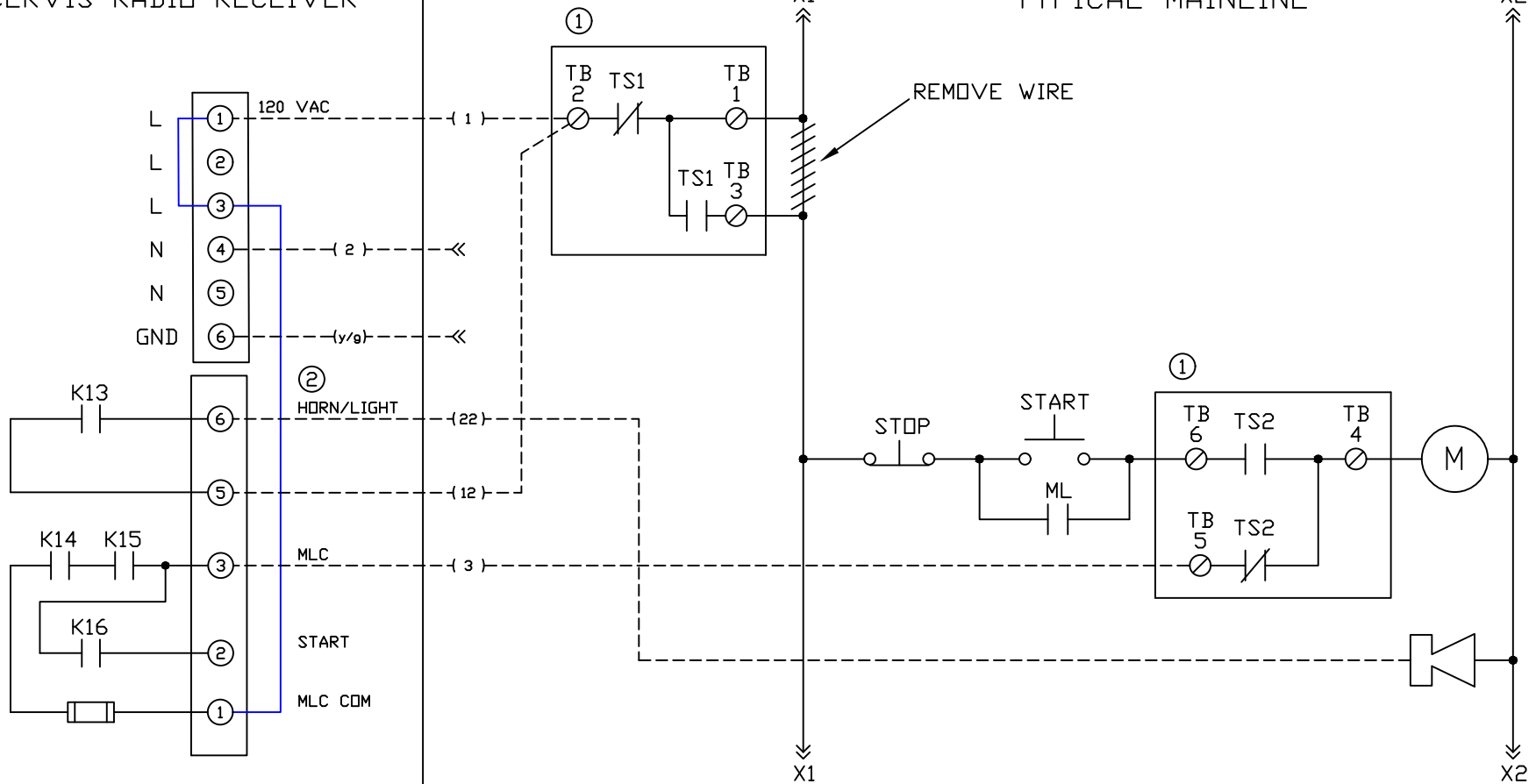
"PCB LAYOUT"

WARRIOR ETHOS-HVA

CERVIS		CUSTOMER: CERVIS, INC.	
		END USER:	
		DESCRIPTION: MU-9X15-HVA: ENCLOSURE DETAILS	
		ASSEMBLY #15104501	
ENGINEER: GFM	REVIEW: EJC	REV: 0 - 0	DRAWING NO.
		SHEET: 3 OF 5	#A100066

CERVIS RADIO RECEIVER

TYPICAL MAINLINE



- ① TRANSFER SWITCH SHOWN IN "RADIO" MODE - FOR REFERENCE ONLY. TRANSFER SWITCH IS SUPPLIED BY CUSTOMER.
- ② TYPICAL WIRING OF THE HORN/LIGHT (ASSOCIATION) RELAY. FOR PROPER OPERATOR WARNING AND ANNUNCIATION DURING THE TX ASSOCIATION PROCESS.

CERVIS

CUSTOMER: CERVIS, INC.

END USER:

DESCRIPTION: WARRIOR ETHOS - TYPICAL MAINLINE



& ASSOCIATION RELAY INTERFACE

REV: 0 - 0

DRAWING NO.

ENGINEER: GFM

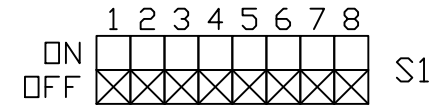
REVIEW: ECJ

SHEET: 4 OF 5

#A100066

"MU" DIP SWITCH -- S1 --

1	2	3	4	5	6	7	** 8
MODE		A-B BOTH/OFF	A-B CYC/IND	A-B MOM/LAT	AUX MOM/LAT	UNUSED	ASSOCIATION



DEFAULT POSITION = SWITCHES OFF
 ** S8 = ON TO ALLOW ASSOCIATION

APPLIES TO ALL MODES & ALL TX TYPES

MODE (SWITCHES 1 & 2)		
0	0	3-MOTION; BR-TR-HOIST 3-RELAY; A/B RELAYS.
0	1	3-MOTION; BR-TR 3-RELAY; HOIST 4-RELAY; A/B RELAYS.
1	0	3-MOTION; BR-TR-HOIST 4-RELAY; NO A/B or AUX RELAYS.
1	1	This mode is not possible with S10 being the horn/start.

*** IN MODES '00' & '01' K4 IS AVAILABLE FOR AN AUX OUTPUT (BASED ON SWITCH 4).

APPLIES ONLY TO HH2S; HHMS. APPLIES TO MODES 00 or 01.

"A-B CYCLE / INDEPENDENT" (SWITCH 4)	
RELAY OPERATION	
0	HH: BUTTON 9 CYCLES A/B RELAYS (see A-B BOTH/OFF SWITCH 3)
1	HH: BUTTON 9 ACTIVATES RELAY K4 ('A') (see A-B MOM/LAT SWITCH 5)

APPLIES TO ALL MODES & ALL TX TYPES

"A-B BOTH / OFF" (SWITCH 3)	
RELAY OPERATION	
0	CYCLES: A, B, BOTH, A, B, BOTH
1	CYCLES: A, B, OFF, A, B, OFF

APPLIES ONLY TO 10-BUTTON HH. APPLIES TO MODES 00 or 01.
 ONLY APPLIES IF A-B CYC/IND = 1.

"K4 - MOM / LATCH" (SWITCH 5)		
	RELAY OPERATION	NOTES
0	K4 IS A MOMENTARY OUTPUT	N/A
1	K4 IS A LATCHING OUTPUT	ON/OFF W/ S9

*** AFTER ANY DIP SWITCH CHANGE, POWER OFF TRANSMITTER. ONCE TX IS TURNED BACK ON, RELAY CONFIG WILL CHANGE.

MU RELAY OUTPUT ASSIGNMENT (BASED ON DIP SW SETTINGS)																
MODE	K1	K2	K3	K4	K5	K6	K7	K8	K9	K10	K11	K12	K13	K14	K15	K16
00	BF	BR	B2	A	TF	TR	T2	B	HD	HU	H2	N/A	H/L	MLC	MLC	STRT
01	BF	BR	B2	A	TF	TR	T2	B	HD	HU	HD2	HU2	H/L	MLC	MLC	STRT
10	BF	BR	BF2	BR2	TF	TR	TF2	TR2	HD	HU	HD2	HU2	H/L	MLC	MLC	STRT

H/L = HORN/LIGHT (ASSOCIATION) RELAY.
 XX = NO OUTPUT.
 MLC = "MLC" RELAY - MAINLINE CONTACTOR

STRT = START RELAY.
 N/A = NOT AVAILABLE.

CERVIS		CUSTOMER: CERVIS, INC.	
		END USER:	
		DESCRIPTION: WARRIOR DIP SW SETTING CHART	
		REV: 0 - 0	DRAWING NO.
ENGINEER: GFM	REVIEW: ECJ	SHEET: 5 OF 5	
		#A100066	